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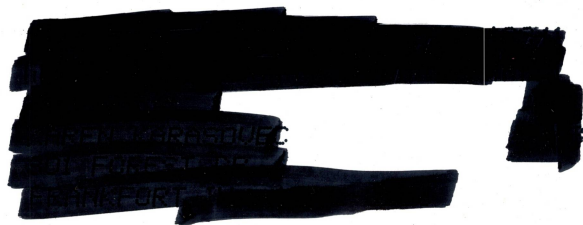
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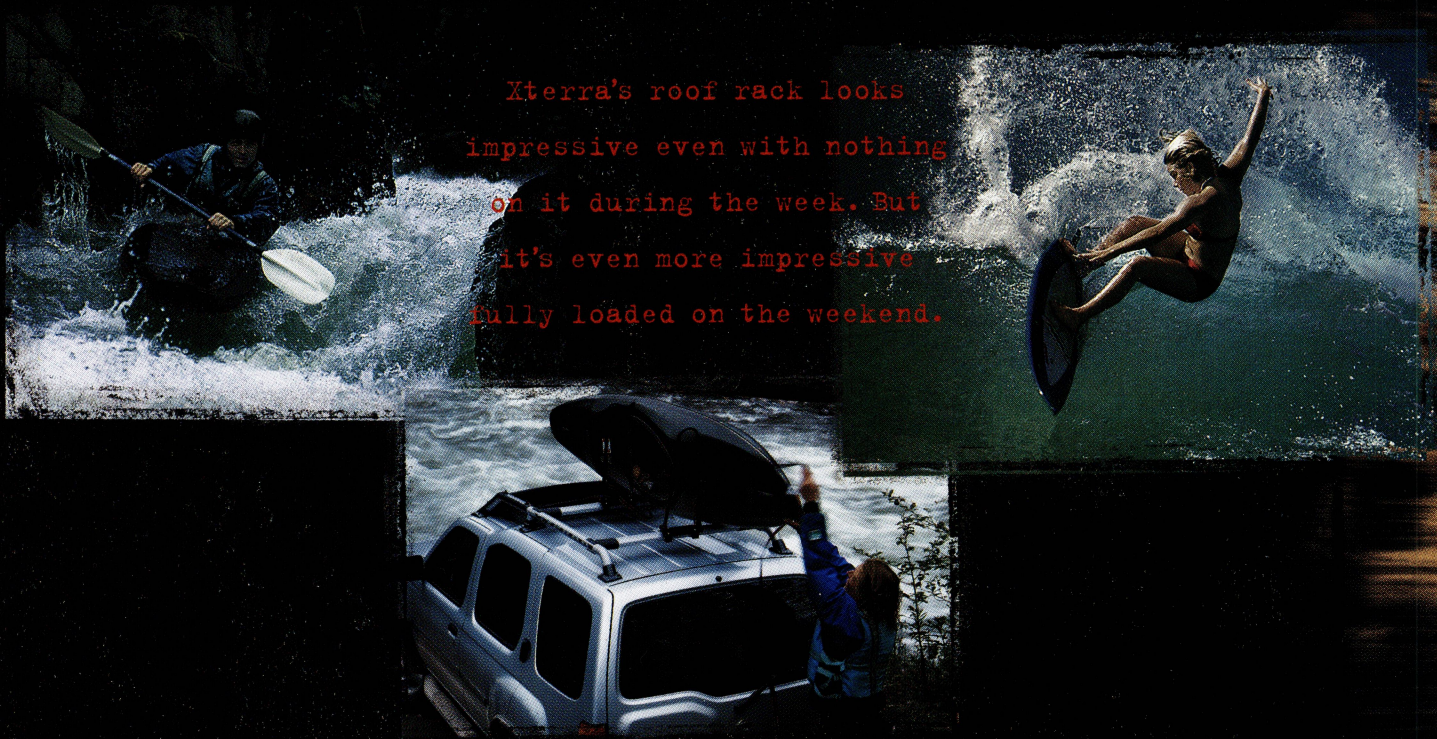
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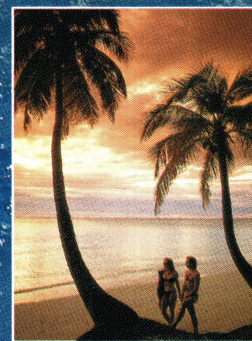
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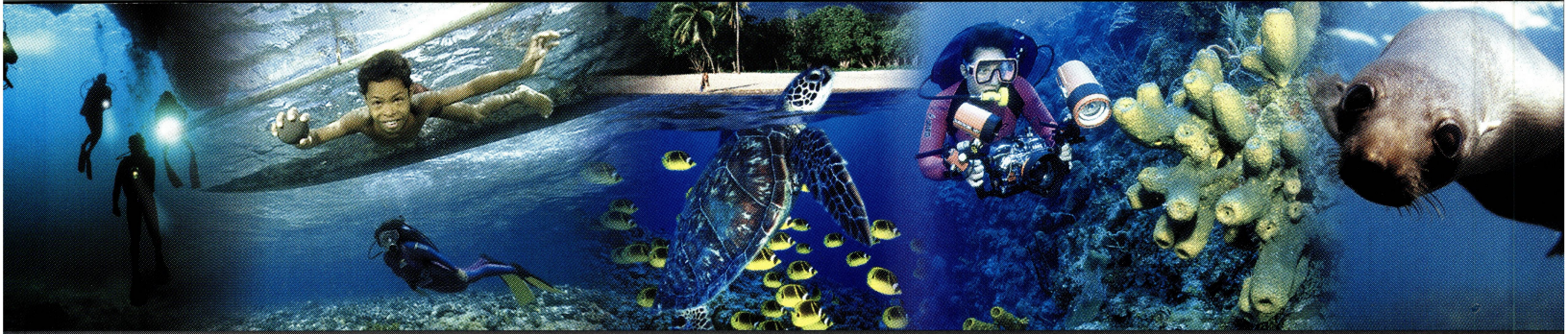
eneath the turquoise and emerald sea is a coral garden decorated with schools of fish and colorful walls plunging to a blue infinity. In the afternoon, we explored a deserted white sand beach and later, prepared for an exciting night dive."



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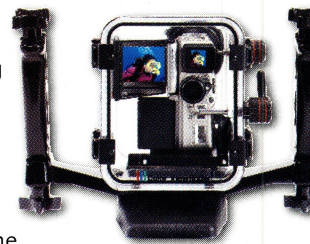
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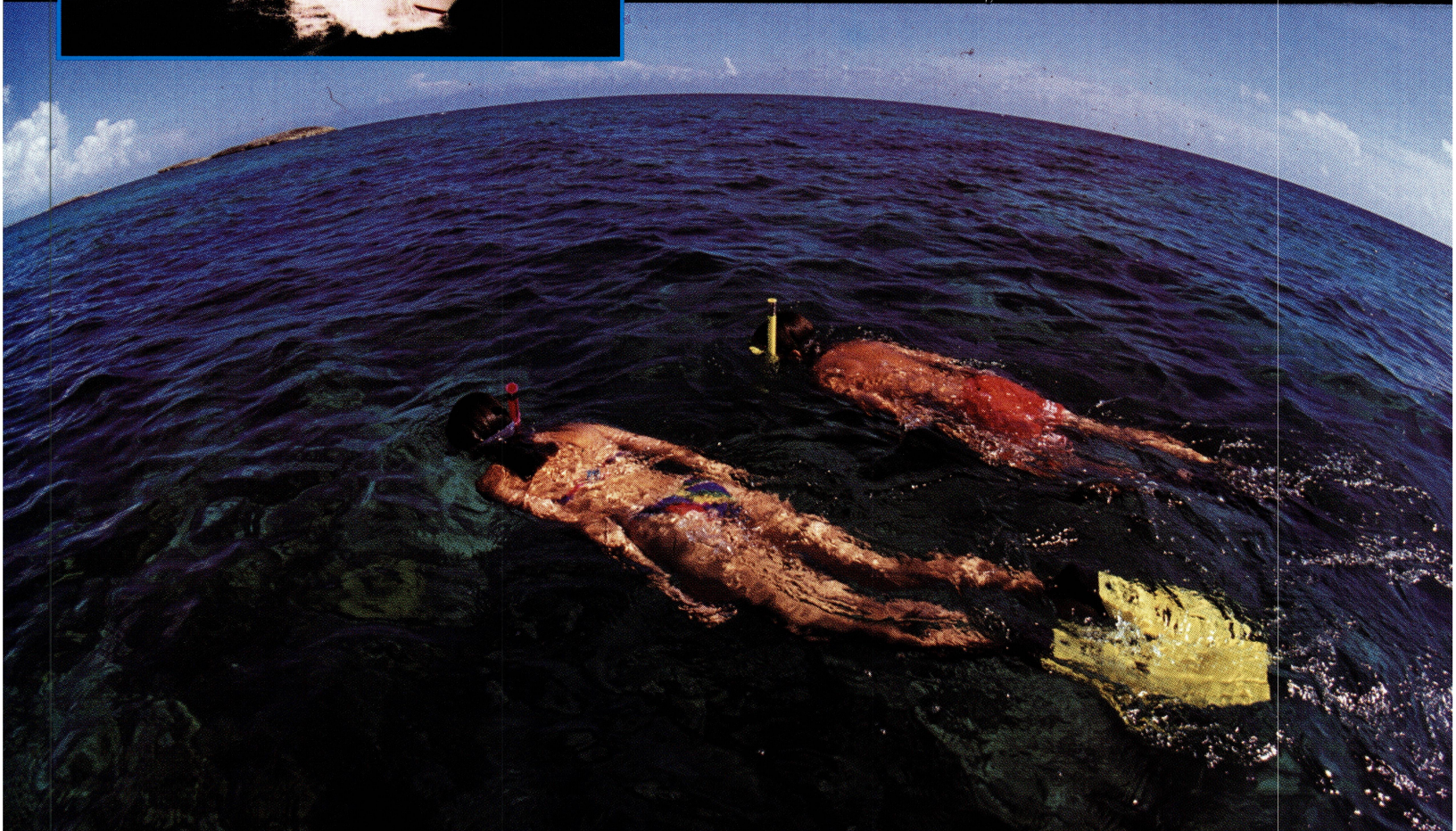
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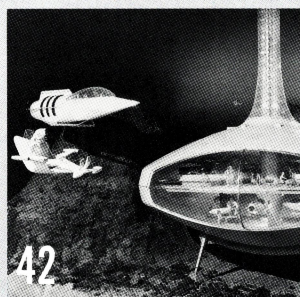
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ABOUT THE COVER:

To celebrate 50 years of diving, our cover pays tribute to the people behind the magazine: Past editors, noted contributors and the heroes that have driven our sport for more than five decades.

Skin Diver®

Volume Fifty • Number One

FEATURES

58 ON THE PULSE OF DIVING FOR 50 YEARS

ERIC HANAUER wholly condenses the history of *Skin Diver*. The characters, the stories, the drama, the growth of an entirely new sport. If only he could tell you all the things he had to leave out.

64 FROM FLASHBULBS TO DIGITAL

JIM CHURCH knows better than most that getting the perfect underwater shot is a mix of skill and luck, and that the ceaseless innovations in camera technology are a testament to diver ingenuity.

78 BECOMING ONE WITH THE SEA

From rubber masks to silicone, double hoses to safe seconds and guess work to pressure gauges, NICK ICORN has watched dive gear come a long, long way.

85 STARS IN OUR EYES

The EDITORS look back at *Skin Diver's* association with American royalty—celebrities in the sea.

88 FAMOUS ALUMNI

BONNIE J. CARDONE believes that when you're 50, you should be allowed to drop a few names. Ever heard of...?

94 JOHN STEEL

WWII combat artist John Steel captured in his cover paintings the essence of diving's early days: myth, mystery and battling the denizens of the deep. ERIC HANAUER remembers a man of bold strokes.

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A complete reprint of the first issue (December 1951) accompanies ZALE PARRY's look at elements of diving culture now lost to modern sensibilities.

102 THE TRAVELING DIVER

Skin Diver veteran BONNIE J. CARDONE recalls the evolution of dive travel. It used to be Spam and warm beer, now its succulent steaks and fine wine. The diving, however, remains an adventure.

110 THE "LAST PINUP"—MEETING BETTIE PAGE

She appeared as if an apparition on the beach. Then, she appeared in *Skin Diver*. Mr. ELLSWORTH BOYD says "Thank You."

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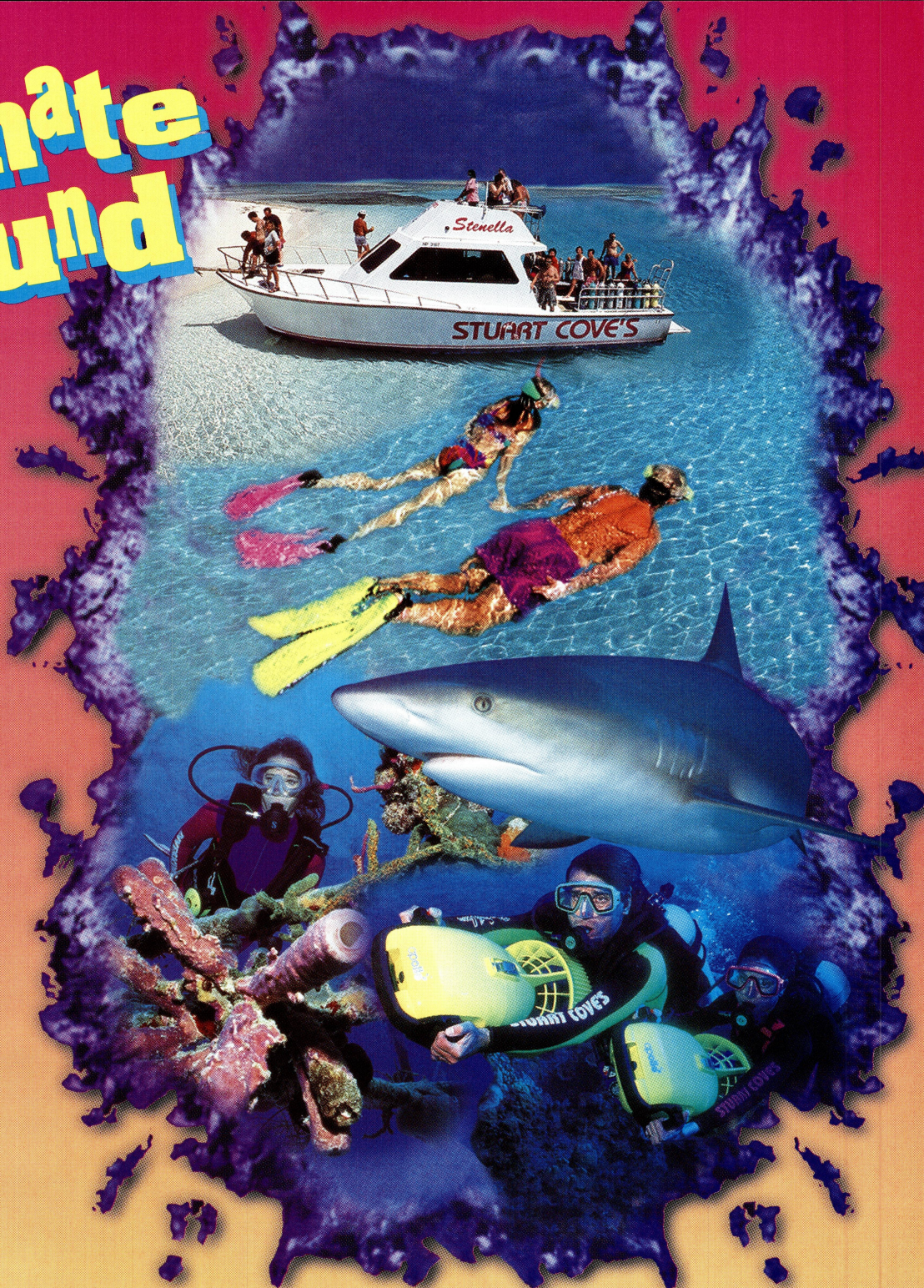
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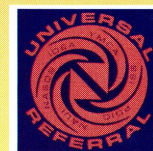
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ELLSWORTH BOYD

Ellsworth Boyd, a native Marylander, learned to dive when he was a lifeguard in Ft Lauderdale, Florida. Although his initial interest was spearfishing, he soon traded his speargun for an underwater camera.

Boyd became hooked on shipwrecks and ship research after photographing and exploring historic vessels sunk off Florida and the Bahamas. Ellsworth's "Wreck Facts"

column, which ran in *Skin Diver* from 1982 to 1988, will return beginning in the February issue. Ellsworth is Professor Emeritus, College of Education, Towson University, Towson, Maryland. He and his family reside in White Hall, Maryland.

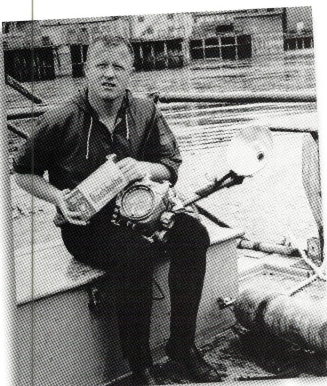


BONNIE CARDONE

"As a girl (on right), I watched *Sea Hunt* and Jacques Cousteau specials. One scene from the latter was magical: Cousteau divers were underwater with a huge fish—a Whale Shark, I think—holding onto a fin and being taken for a ride. It was those specials that fueled my desire to dive.

"My certification course in 1973 was exciting but my adventures since then have been beyond my

wildest dreams. I have had the opportunity to dive all over the world and even been shipwrecked on a deserted isle in the South China Sea."

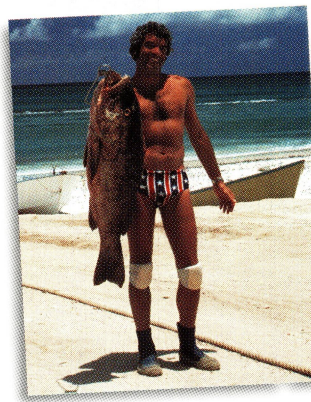


JIM CHURCH

Jim Church's first dive was in an old-style, hard-hat suit in Adak, Alaska, in 1953. However, he was rejected by the Navy's Deep Sea Diving School for being partially color blind. Later, he was mesmerized by *Sea Hunt* and began scuba diving in 1959.

He purchased a Calypso camera in 1964 and has been writing for *Skin Diver* since 1966. Jim is the principal author of four books on underwater

photography and the sole author of three. He and Cathy Church were married from 1968 to 1987 and received the NOGI Award for the Arts in 1986. Today, Jim gives underwater photo seminars at scuba shows and teaches special underwater photography courses aboard vessels of the Aggressor Fleet.



ERIC HANAUER

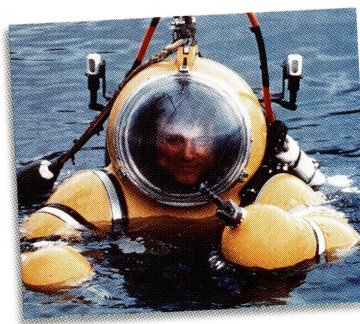
"Having been a swimmer and a swimming coach, I naturally drifted into diving in the lakes and quarries around Chicago in 1959. Divers in those days were hunters, and I was no exception.

"This photo was shot during our first trip to Cabo Pulmo, Mexico, in the mid seventies. I'm dressed in the diving uniform of the time: Speedos and knee pads. It's the biggest fish I ever shot (and one of the last): a Dog Snapper. Soon afterward, I got hooked on underwater photography and grocery bills climbed exponentially."



NICK ICORN

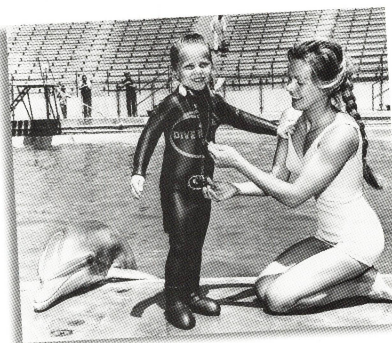
Nick has had a long and varied career in diving. One of the first instructors in the U.S. Scripps Program 1953, Nick went on to become Project Director of NAUI, National Director of PADI and Program Director of NASDS. He has been Chief Engineer for U.S. Divers, Healthways, Cavalero, Sherwood and Ocean Dynamics, and is currently Director of the Museum of Diving History. He is the recipient of two NOGI Awards, Distinguished Service in 1974 and Education in 1986. He has also received the California Diving Service Award and the Conrad Limbaugh Memorial Award.



PHIL NUYTTEN

In mid 1999, Leslie Leaney, President of the Historical Diving Society, USA, visited the late *Skin Diver* columnist E.R. Cross. Cross discussed what he would like to see happen in the future, after he had left us. His major concern was who would take over his work—who would be his heir. After some discussion, Cross

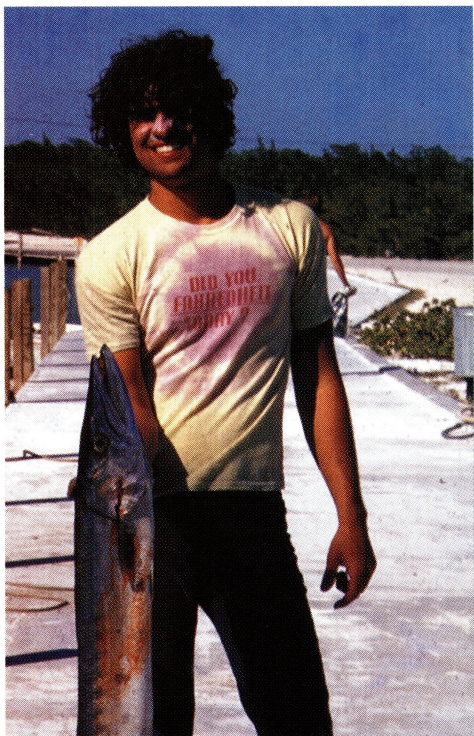
decided his "young" friend Phil Nuytten would be the man. His decision was based as much on spirit as on diving knowledge. Cross inscribed his decision into a book, and the next day Leaney delivered it to Nuytten. Nuytten's column, "Newt Frontiers," debuts this issue.



ZALE PARRY

Zale remembers filming a CBS Easter Sunday special in 1963 with the stars of the *Beverly Hillbillies*. The sequence was in the dolphin arena. Granny expressed to Ellie May that if she dived into the water with the dolphins, she would end up as a shrunken grown-up. Ellie May dressed in

complete snorkel gear, leapt into the tank. At that moment, Zale's three-year-old daughter, Margaret, swam across the tank with a dolphin on each side of her. Proof that Granny was right!



Al, circa 1971, shows off a prize barracuda.

Diving's Own Memory Lane

me, taking me back to a time when I was lying in my bedroom in Guam, a dog-eared copy of Cousteau's *Silent World* on one side, a stack of well-read *Skin Diver* magazines on the other. I'm sure a lot of you reading this will have your own memories stirred up as you turn these pages. Enjoy. It's been an awful lot of fun for all of us here at *Skin Diver* to bring you this very special edition. Thanks so much for reading.

A Special Welcome to DAN Members

We want to extend a special welcome to all of you, with this first issue of *Skin Diver*, *Alert Diver Edition*. As part of an agreement between Divers Alert Network and *Skin Diver*, you'll now receive this special DAN member's edition of *Skin Diver*, and *Alert Diver*, every month.

As an increased value to you from DAN and *Skin Diver*, your DAN membership dues include a subscription to the *Alert Diver* edition of *Skin Diver*, a \$5.99 value, which is not deductible from your dues. If for any reason you do not wish to receive the monthly *Skin Diver*, *Alert Diver Edition*, just contact DAN and we'll cease sending it.

Again, welcome, and we hope you'll enjoy reading *Skin Diver*. 🐠

When I picked up my first issue of *Skin Diver*, back in 1962, I practically devoured the pages. I had just discovered diving, and I was out in the water almost every day, spearing fish, collecting shells and catching critters for the aquariums that my mom and dad were nice enough to let me scatter around our house. For that's what diving was about in those days—lots of deep freediving and hunting. And, as you'll notice when you look through the authentic reproduction of our very first issue included in this magazine, that's also the essence the early *Skin Diver* captured.

Beginning with that first issue in December 1951, *Skin Diver* grew with diving, and diving's growth and development were reflected in its pages. There was likely not a single diving product, training program or dive destination introduced that did not appear somewhere, sometime, in *Skin Diver*. As we put this special issue together, we poured over thousands of archival photos and leafed through all 50 years of back issues. What an experience! History and memories all mixed together; famous names, often before they were famous, and names unknown to most of us now, of people who contributed remarkably to the sport we enjoy today.

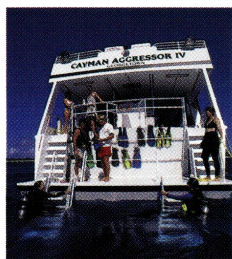
We've tried to bring as much of it to you as we possibly could. We owe much to the contributors who worked with us on the historical pieces, Jim Church, Zale Parry and Al Tillman, Bonnie Cardone, Eric Hanauer, Nick Icorn, Ellsworth Boyd and others. From their files and memories came incredible stuff that is too interesting, exciting—and sometimes wacky—to be forgotten.

This project, indeed, has been a real memory lane experience for

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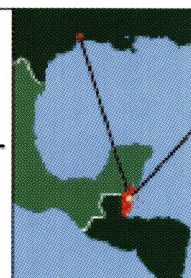
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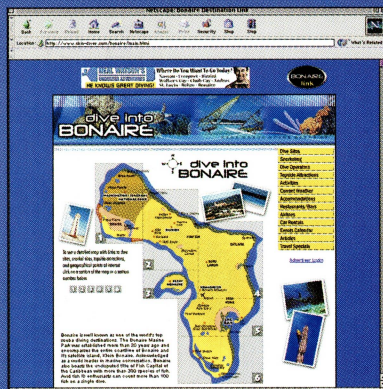
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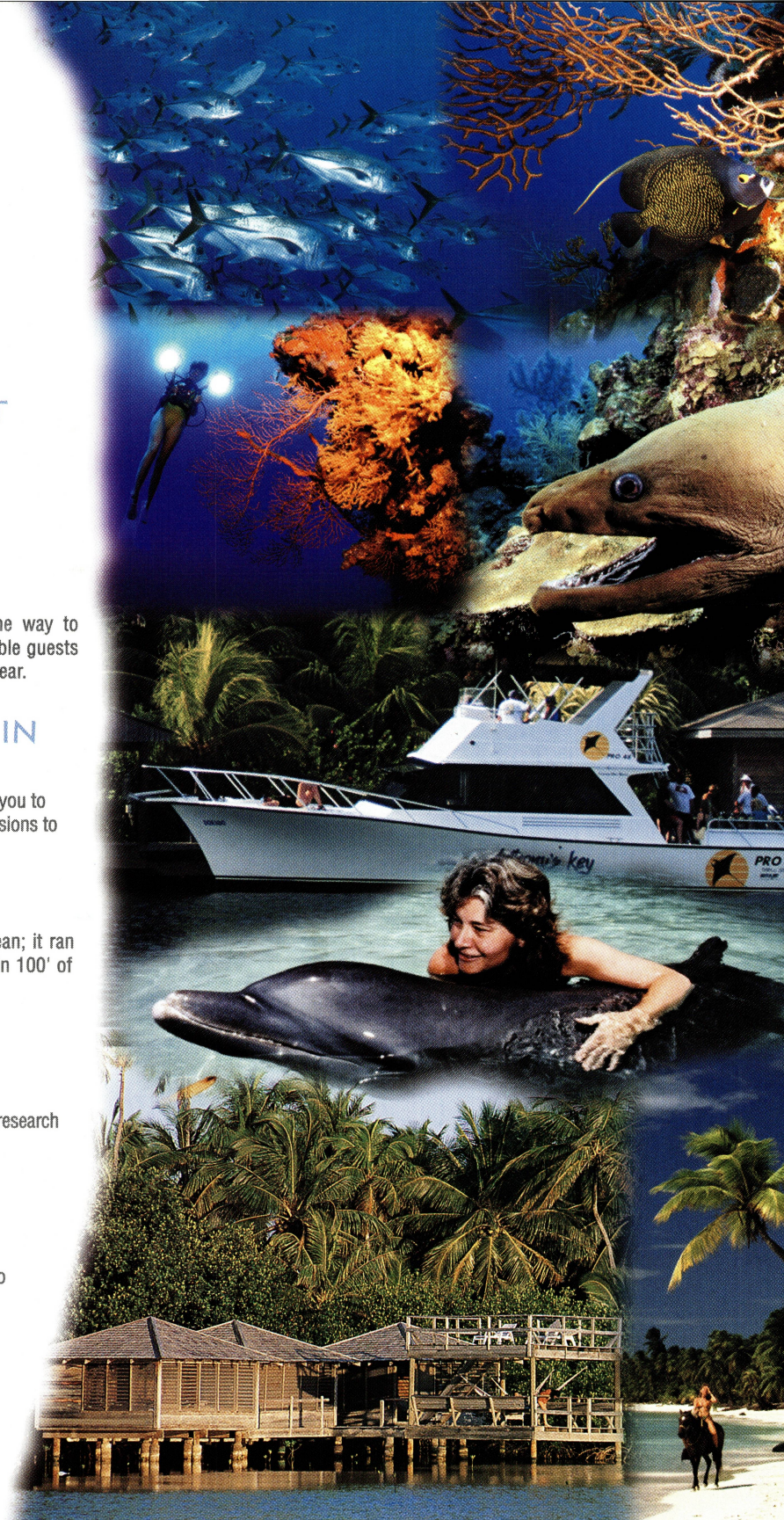
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Readers Speak Out

Keep Fighting

Wow! Your article about Cousteau and the Great Whites blew me away (*Cousteau's New Adventure*, November 2000). The photos are amazing. (Does anybody know where I can get one of those sub things?)

It's not really news to divers that sharks aren't out to eat us, but I imagine that most of us would think long and hard before hitching a ride on *Jaws* himself. Also, the picture of a Great White completely out of the water, chowing down on the sea lion decoy, really got my heart racing. (My diving friends and I think surfers are nuts.) I guess the proverbial apple doesn't fall far from the tree, does it?

It's very cool to see Jean-Michel doing what his father did, bringing the aquatic world into millions of people's lives through television. My memories of watching his father explore all those fascinating and sometimes eerie underwater places keeps me



motivated to stay in the water and experience new things. Tell Jean-Michel to keep fighting the good fight. For everybody's sake.

Daniel Oxnard
New York, NY

Take Your Vitamins

I, and many of my diving friends, were appalled at your article in the September *Skin Diver* magazine (*ScubaMed: Dietary Supplements and Alternative Medicines*). It's one thing to advise people to be cautious and educate themselves about taking natural supplements...but when you "warn" people away from them, you are doing your readers a great disservice.

Fortunately, I suspect that many of your readers are more educated about natural medicine than you are, so will not be swayed by your comments. However, I feel sorry for those who are not informed and will be warned away from so many things that could help them.

Sally E. Darling
via e-mail



Blessings from the Philippines

Greetings! I'm a reader of your magazine. The articles are very informative and resourceful for a diver like me. First of all I would like to salute you for taking action to preserve our oceans and its wildlife. I really appreciate the work of those dedicated men and women in their campaign against [the] destruction of our oceans. [They] give their best talents and time to save [the underwater] world and its marine life against the activities done by individuals with no respect for our environment.

For the sake of our future, *save the oceans and its wildlife!* May God bless you all in your good endeavors.

Fernando G. Reyes
Manila, Philippines

Jean-Michel Cousteau
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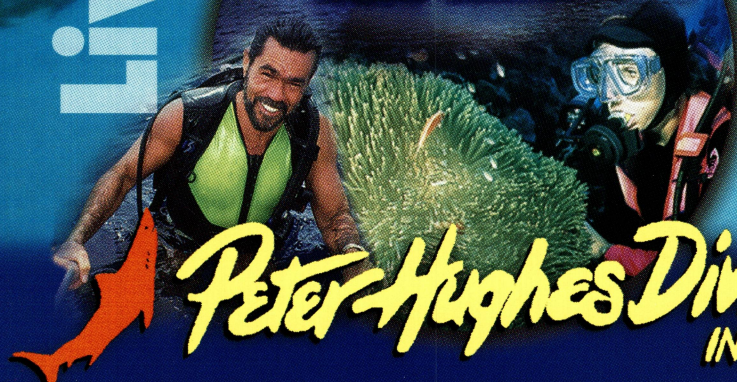
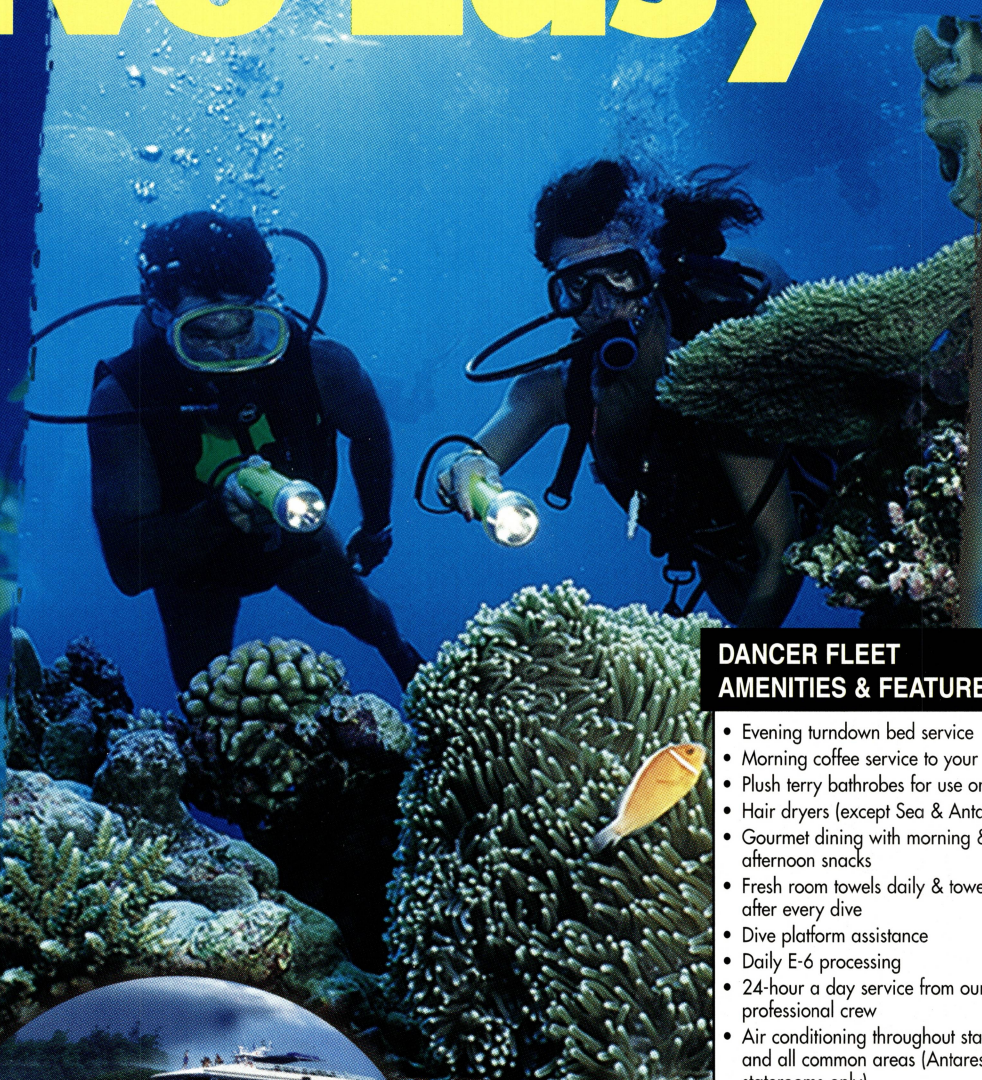
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timeless magic

By Jim Walker

The islands of Little Cayman and Cayman Brac have become famous as Caribbean destinations of choice for those seeking the thrills of truly virgin diving combined with easy access, full-service dive operations and comfortable accommodations. More similar to each other than to larger, more developed Grand Cayman, the Sister Islands of Little Cayman and Cayman Brac are a world unto themselves.

While the development of Grand Cayman as a divers' destination began in the 1950s and had really taken hold by the '70s, Cayman Brac and Little Cayman developed much later. Occasionally visited by boats out of Grand Cayman in the early years, it wasn't until regular air service from Grand Cayman to Cayman Brac began—about 30 years ago—that the Sister Islands were first recognized by divers. Even at the beginning of the 1980s there was only one divers' hotel, the Buccaneer's Inn, on Cayman Brac, and none on Little Cayman. By the mid-'80s there were three hotels on the Brac—all serviced by one dive operation—and four on Little Cayman. The live-aboard *Little Cayman Diver* came here in 1986.

Today, the national airline, Cayman Airways, provides daily jet service to Cayman Brac, with conve-

nient connections from the U.S. gateways of Miami, Tampa, Orlando and Houston. Island Air provides three turbo prop flights daily to both Little Cayman and Cayman Brac.

There are four dive operations on the Brac, six on Little Cayman and a handful of hotels and condo complexes on each island. Accommodations range from the small and eclectic to the large and luxurious. *Little Cayman Diver II* operates out of the Brac and *Aggressor IV* visits these islands from Grand Cayman.

Everything the vacationing diver needs can be found on both islands, but in a serene, natural atmosphere that hasn't changed since the early days. And why not? The population on Cayman Brac is only about 1,400 permanent residents, and there are less than 150 res-



Photos/Al Hornsby

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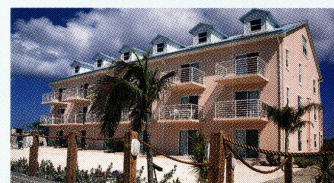
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ulates the number of dive boats allowed to visit the famous wall sites.

Ecotourism also finds a home onshore in the Sister Island. Cayman Brac's topside attractions include a pristine natural landscape with limestone bluffs at the eastern end, honeycombed with caves. Here there are also nature trails and the Brac Parrot Reserve.

Little Cayman is popular among ecotourists for its Booby Pond Nature Reserve—home to the largest colony of red-footed boobies in the Western Hemisphere. Little Cayman is also populated by thousands of rock iguanas, and the few automobile drivers on the island give the iguanas the right of way on local roads.

So, despite the emergence of the Sister Islands as a popular destination for divers, they remain relatively unchanged on and offshore. Continued efforts by the government, residents and visitors to protect the natural wonders will ensure these islands remain a divers' mecca, and a world unto themselves—a world where nature holds sway and time seems to have stood still.



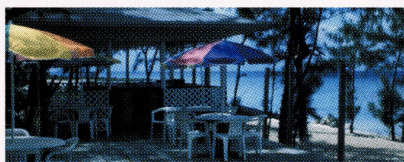
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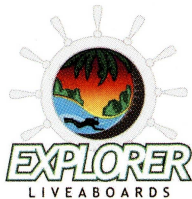
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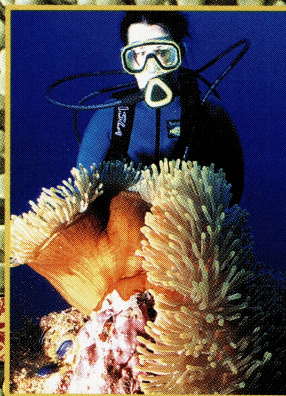
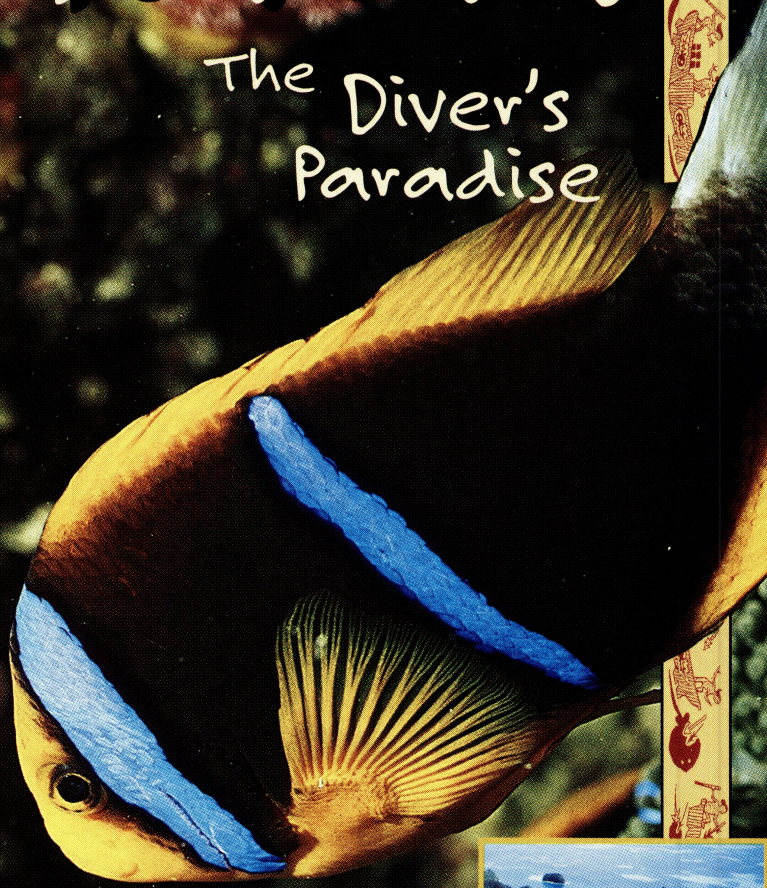
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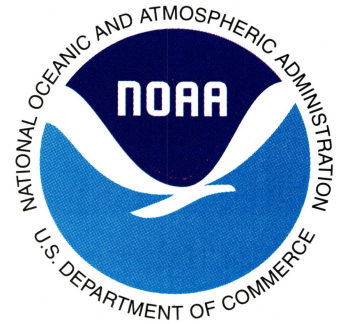
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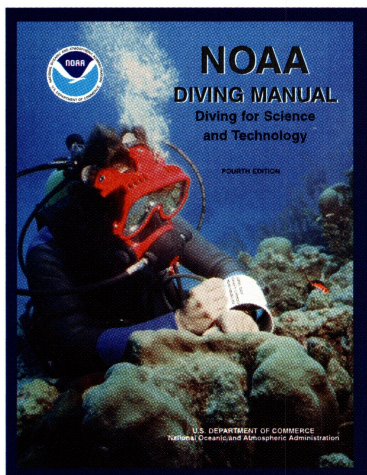


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The National Oceanic and Atmospheric Administration (NOAA) Diving Program, which is recognized as one of the leading authorities on scientific diving and undersea technology has released the Fourth Edition of the NOAA Diving Manual. Last published in 1991 with over 25,000 books sold within six years. The newly revised manual is published in full color, with coated pages and available in both soft cover and hard cover formats. It contains basic through advanced applied diving technologies and is written in a non-technical style so it will be informative to all who are interested in safe diving procedures and techniques.

This completely revised Fourth Edition is one of the most detailed diving reference books available and is a valuable resource to all who are interested in a complete encyclopedia of diving technology, equipment, techniques and procedures. More than 100 authors and reviewers, selected from a diverse spectrum of experts in recreational, commercial, military, scientific and research diving, combined their expertise to address the complex issues involved in today's diving. This new edition contains twenty-one chapters on all aspects of diving, techniques to improve the methodology of underwater scientific research, new gear, operational techniques, and details to help the diver dive safely. In addition, there are ten appendices including a glossary, references, and a detailed index. The technologies of rebreathers and mixed gas diving, including nitrox and oxygen are included; diving physics, physiology, decompression, and diving medicine have also been updated to reflect recent development in the diving

industry. The NOAA Nitrox Tables and the Nitrox Diving Procedures allow deeper and/or longer bottom times to increase diver efficiency when using nitrox, without affecting safety or increasing decompression time.

James Joiner, the editor commented "This publication was the result of a collaborative partnership between Best Publishing Company and the Department of Commerce, National Oceanic and Atmospheric Administration, and National Technical Information Service. This new Fourth Edition is a total revision of the 1991 Edition and contains the latest U.S. Navy Air Dive Tables, updated treatment tables and procedures, and the first publication of NOAA's Nitrox Table II (NN32 and NN36)."

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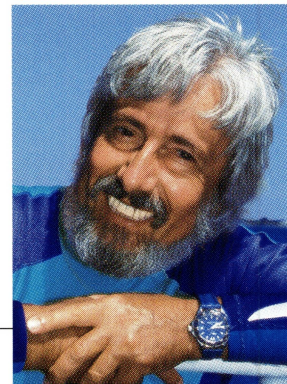
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Beyond the Cage

BY JEAN-MICHEL COUSTEAU



Photo/Geri Murphy

A decade ago, I was privileged to lead a film team that observed Great White Sharks off Dangerous Reef in South Australia. For six months we tracked them, filmed them and sought to learn their ways.

By the end of our time there, we felt we were well acquainted with the Great White, which we had come to see as a majestic and somewhat lonely creature.

We also became very well acquainted with the shark myth, spawned by countless movies like *Jaws*. According to this myth, all sharks are fiendish predators who pursue and devour humans. But the Great White Shark is the most fiendish of all, hunting humans for sport or vengeance or any number of other motivations drawn from humans. While many sharks have been rehabilitated in the public mind, for most of humanity the Great White Shark is still a relentless man-eater, the incarnation of evil.

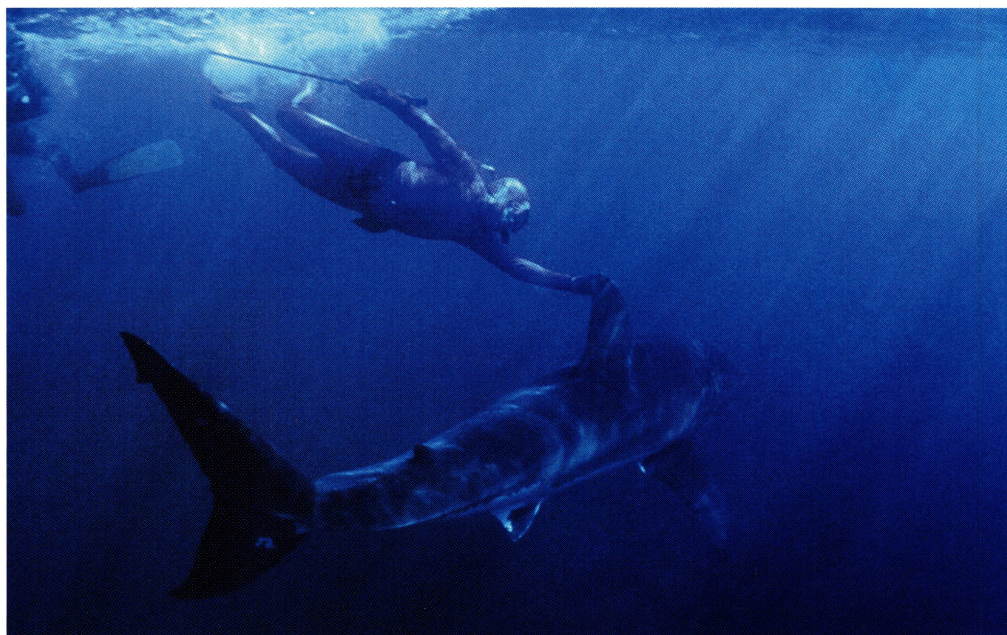
It's easy to understand the fear. We spoke with well-known victims of shark attacks. One of these was Rodney Fox, the spearfishing champion who nearly died when a Great White, attracted to the speared fish on his belt, seized his torso in its mouth and dragged him into the deep. But for all their gruesome intensity, it was hard to hear these tales and conclude that the shark is a desperado. Even Rodney Fox now speaks out on their behalf.

This is important, because shark hunters use public hysteria to gain acceptance—and cash—for their periodic slaughters of sharks. Shark fishermen, and those who take large numbers of sharks as bycatch, also benefit from the perception that the sea is better off without sharks.

In fact, the sea is *worse* off without sharks. This is recognized even by the U.S. National Marine Fisheries Service, which has placed several species of sharks under its protection. All sharks contribute to a balanced marine ecosystem. The Great White, with its bulk

and impressive array of slashing teeth, is one of the top predators in colder waters. Its presence, and its appetite, keep populations of pinnipeds in check, preserving fish abundance. Its scavenging ways also help reduce the amount of dead debris in the water.

I learned something important on that expedition: the Great White has no particular interest in people. When circumstances are right—or wrong, depending on your point of



Photo/Lionel Pozzoli

view—it will attack. It may take a bite, but once it realizes a person is not what it was hoping for, it will most likely release what it has taken hold of. We tested the proposition by putting various objects on the ocean surface—a box, a rubber duck, a dummy diver. The shark attacked, in a predictable, investigatory way, but did not devour any of the objects.

Still, we did not feel safe enough to venture out of the cage and swim with the Great White. The closest we came to that was inserting a diver into a lexan cylinder that allowed us all the illusion of *almost* inhabiting the same space.

Cousteau freedived with this 12-foot female Great White Shark. It seemed oblivious to his presence and allowed him to take a 15-second ride on its dorsal fin.

For a decade, I have wondered what it would be like if that “almost” were to be removed and I could occupy the same ocean as the Great White Shark.

Not long ago, I got my chance to find out.

As part of our first film project at Deep Ocean Odyssey, our team journeyed to South Africa to dive with Andre Hartmann, a tour operator and local expert on Great White Sharks. Our mission was simple enough: Go beyond the cage.

That said, we took the logical precautions against the unexpected. The water was alive with up to four species of sharks at the same time. We carried poles and shark billies, knowing that sharks are easily repelled by hard objects. Security divers accompanied the cameraman and lighting diver, acting as their eyes and hands.

With Hartmann as my guide, I was able to, at the appropriate time, gently freedive as a

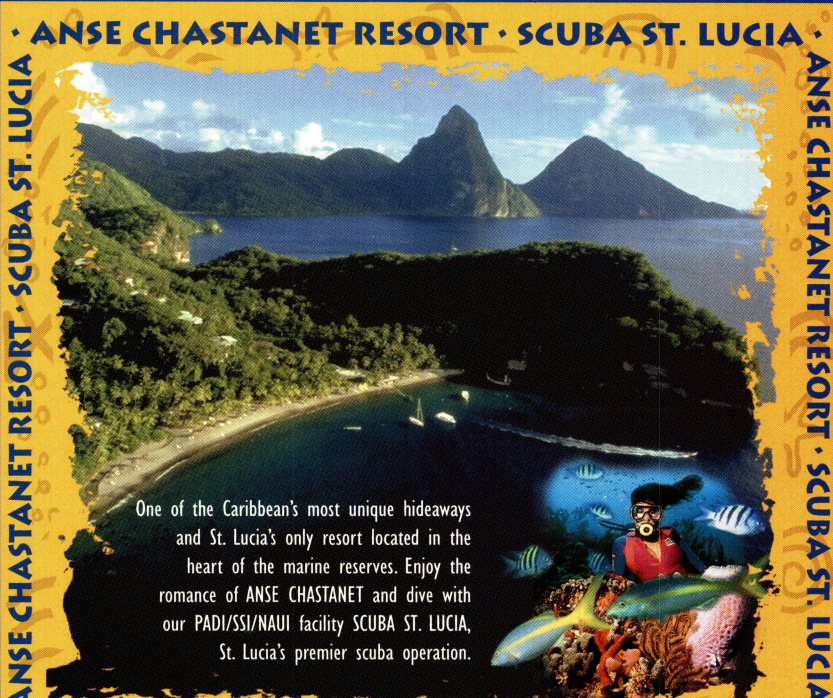
The Great White has no particular interest in people.

12-foot female Great White swam below me. Carefully, I pinched the upper back side of her dorsal fin. The shark did not flinch. It felt like she did not even notice my presence. And without changing depth, direction or speed, I was able to take a 15-second ride, after which I let go while she swam on, seemingly oblivious. But she returned many times during that and subsequent dives.

The feeling is hard to describe. On one hand, it was exciting, because I was operating outside my comfort zone, exploring new physical and psychological terrain. But on the other hand, it was almost mundane. For I was left with the realization that the Great White is not a man-eater bent on the destruction of all divers, snorkelers, surfers, and swimmers, but a shark like any other. A predator and scavenger, going about its life simply and efficiently.

Naturally, I don't recommend that everyone go out and dive with Great Whites. My dive was a test, under closely controlled conditions, with experts in shark diving. But I do recommend that we leave our mental cages, and appreciate the Great White Shark as an animal with its own beauty, dignity and right to exist. 🐡

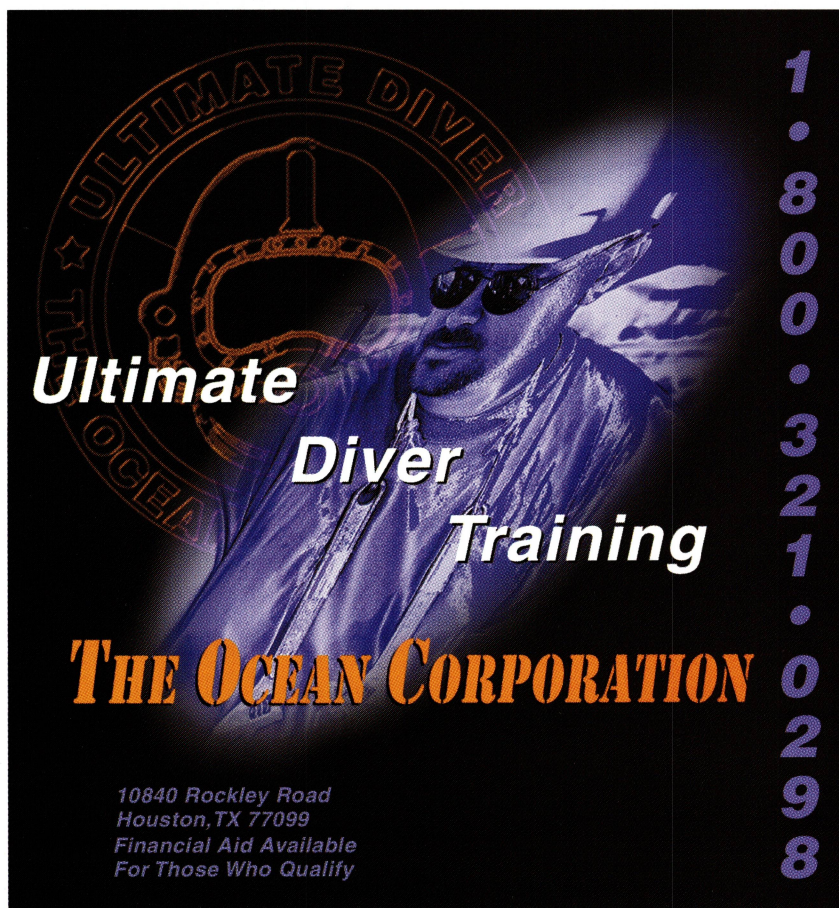
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The Elusive Barbu

BY NED AND ANNA DeLoach WITH PAUL HUMANN

Mask and snorkel in hand and still dripping, Kathy caught up with me as I trudged toward the beach bar for a sunset cocktail. “Tony and I just saw a fish we can’t identify, and it isn’t in the I.D. book. Will you help?”

Of course, I would help. If there is anything I like better than hunting for exotic fish, it is talking about them. And walking

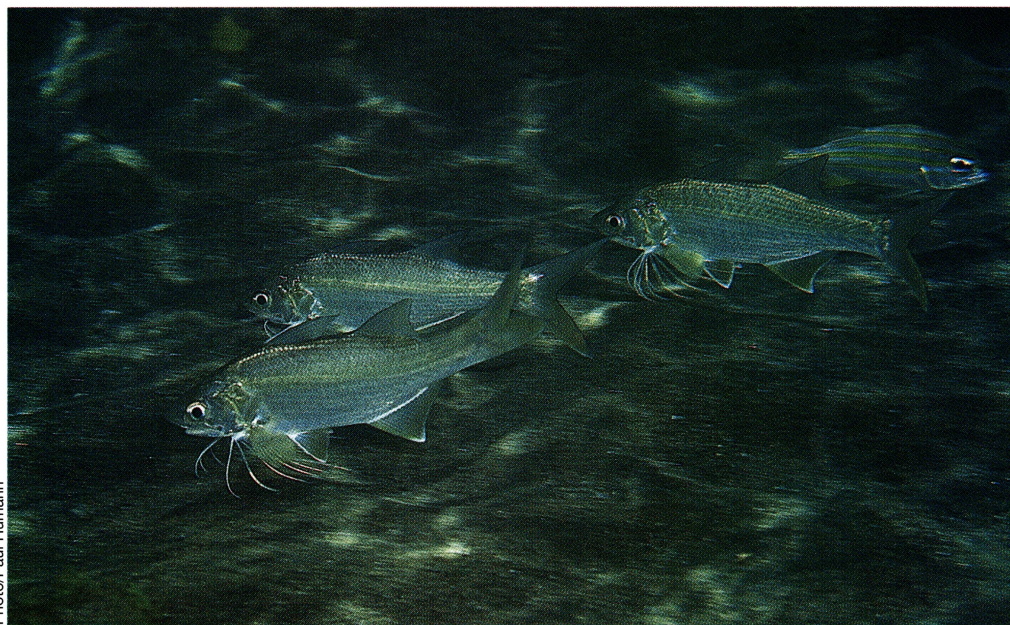
very, with widely separated dorsal fins and cute little rounded snouts. We found them feeding in small groups just off the beach. And the odd thing, when they move along the bottom, something like whiskers shoot out from the sides of their heads.”

That last detail, about the whiskers, stopped me in my tracks. Although I had never seen the species, I knew exactly which fish Kathy was describing. It was the Barbu (*Polydactylus virginicus*)—a species so elusive that it had never been recorded in REEF’s marine life database or, to my knowledge, photographed in the wild.

The following morning, before the first scheduled survey dive, a half-dozen yawning snorkelers, including myself, camera in hand, followed Kathy and Tony down the beach to where the Barbu were sighted the evening before. And sure enough, there they were, in three groups of a dozen or more, feeding in the sun-dappled surf. And just as Kathy described, distinct fingerlike fans of whiskers (modified pectoral fin rays) flared from their sides.

The Barbu represents one more species that can now be monitored using a new visual identification approach to marine life surveying known as the Roving Diver Technique. This low-impact surveying method, currently used by hundreds of volunteer survey divers, has extensively replaced the more traditional methods of dredging, spearing and poisoning organisms.

It is exciting to think that Kathy and Tony, who were only involved in fish watching for a week, were able to make such a significant contribution to REEF’s growing map of biodiversity of the Caribbean—an indispensable resource for marine wildlife management that is being built, species-by-species and island-by-island, by recreational divers. 🐟



The rarely photographed Barbu hide from casual observation in brackish waters, estuaries and shallow water along the shore.

beside me was a young lady learning to “speak fish” quickly and well. Kathy and her husband Tony were two of 20 volunteer divers attending the 2000 REEF (Reef Environmental Education Foundation) fish field survey on the eastern Caribbean island of Dominica. And although the California couple had been making survey dives all week, including three tanks that day, they were still out at last light searching for new species along the sea cliffs of Castaway Beach.

“What did you find?” I asked.

“Well, they are nine or ten inches long, sil-

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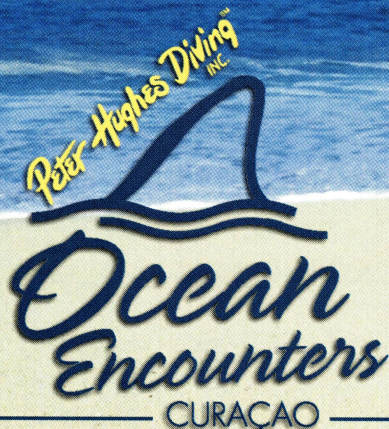
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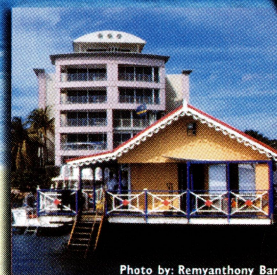


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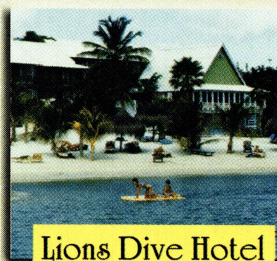


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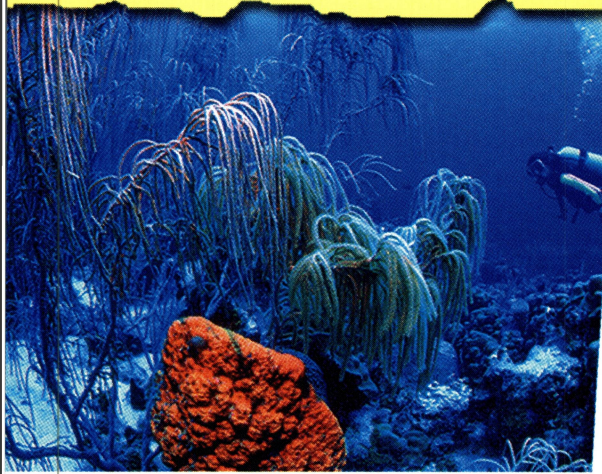
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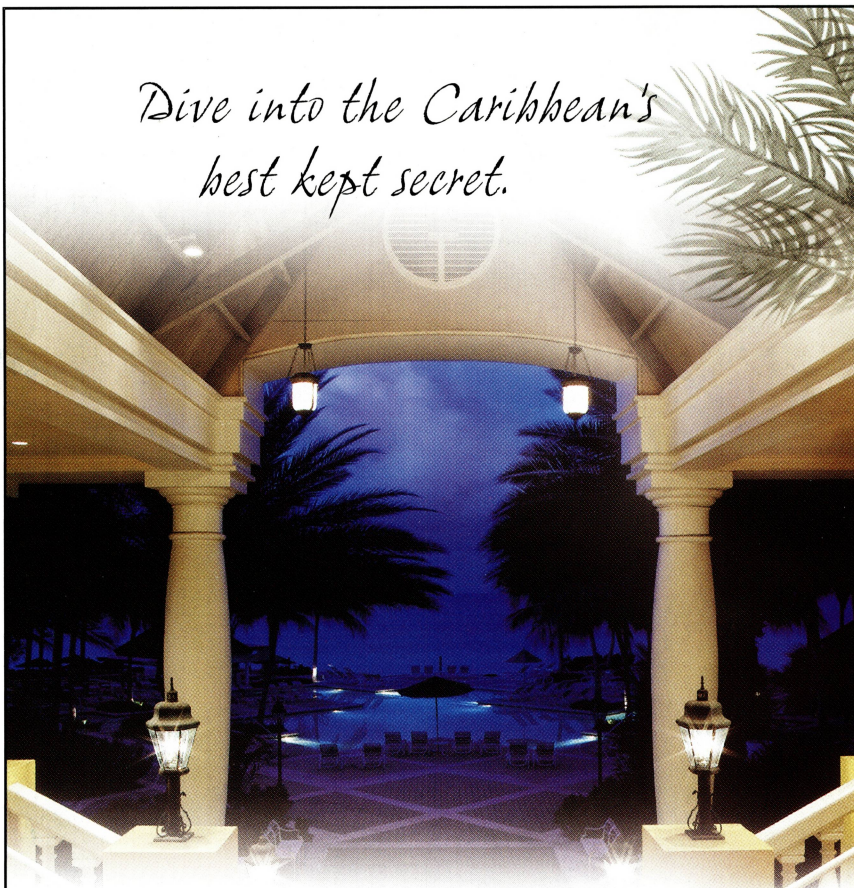
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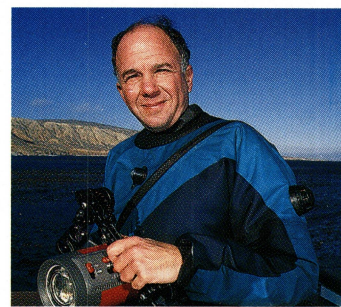


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Backlighting Basics

BY MARTY SNYDERMAN



Subjects that are backlit can look awesome, but when I tried backlighting, my photographs were completely blown out by my strobe. Can you help me learn how to backlight? — Susie, Santa Barbara, CA

Backlighting can produce some wonderful images, but learning how to backlight can be tricky. Creating a pleasing look and getting the right exposure is not as simple as it is when using standard lighting techniques. Before getting into the details of how to backlight, let's consider the when and why of backlighting.

When a subject is translucent or semi-translucent, like many jellyfish, comb jellies and salps, backlighting can be effective, especially when the lighting reveals the details of internal organs and other structures. If working with a non-translucent subject, such as a hard coral or sea urchin, then the appeal comes from the outline of the shape or from the revealed details of extremities such as cilia or tentacles.

Despite the term "backlighting," it is almost never a good technique to position a strobe directly behind a subject in a direct line with the lens. Instead, the strobe should be placed behind and slightly above, below or to the side of the subject. Exactly where a strobe should be placed depends on a number of factors,

including the degree to which light either passes through or is blocked by the subject, the power of the strobe, the shape of the subject, the look you hope to create, the lens being used and the beam angle of the strobe.

Because it is extremely difficult to know precisely what a backlit image will look like, bracketing your exposure by varying the strobe-to-subject distance is a key to success.

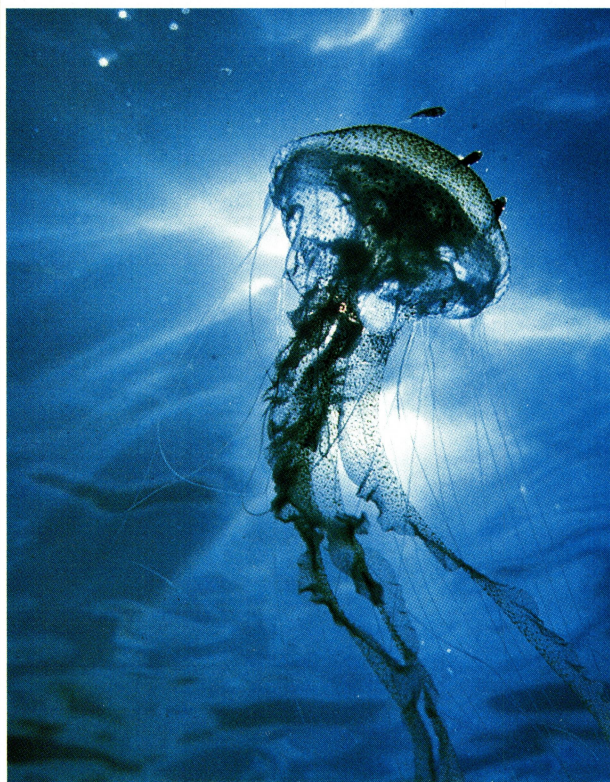
In addition, I strongly suggest that you change the lighting angle by moving the position of your strobe relative to that of the subject and your lens.

When backlighting with a strobe, I set the strobe in a manual mode and expose a series of frames with my strobe-to-subject distance changing from six inches to one foot to two feet to three feet, and sometimes slightly farther. I never know which shot will please me the most until I view the processed film. The point is that in order to consistently get good results, you will want to change your lighting angle and bracket your exposures by varying your strobe-to-subject distance.

In many instances, you can create a pleasing look when using a camera system with two strobes by using one strobe to front light your subject and the other to backlight. In some cases the sun, as opposed to a strobe, can serve as the backlight. When using the sun as your light source, it often works very well with translucent subjects such as jellyfishes and salps. These subjects can be difficult to light when lit from the front.

Position your lens, subject and the sun so that they are in a straight line. (This technique is in direct contradiction to the recommended technique when using a strobe to backlight. The disparity arises because many strobes are so powerful they will grossly over expose a frame when placed directly behind a translucent subject, while using the sun as a light source often creates a more pleasing result.) To get a good exposure when backlighting with the sun use a light meter to determine the f/stop to expose the water surrounding the sun.

With a little practice, the results can be quite gratifying.



By positioning the lens, this Warty Jellyfish and the sun in a straight line, the backlighting with natural light technique creates an amazing image.



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Sea & Sea MX-5

Is there an easy, inexpensive way to give photography a shot?
—Edward Goshen, NY

Many divers think underwater photography would be fun, but the thought of learning about f/stops, shutter speeds, film speeds, strobes and light meters sounds like too much work. It is possible, however, to take pictures underwater without having to know an f/stop from a bus stop and without having to write a check for a thousand bucks. The one caveat is that minimizing your investment means you won't be trying for professional level cover shots. But, you will be bringing home some great memories.

There are a number of relatively inexpensive, easy-to-use, point-and-shoot style cameras that do most of your "photographic thinking" for you. They empower you to take some fun photographs, just like most people enjoy on any vacation activity. You don't have to adjust camera, lens or strobe settings on the fly. All you need to do is frame and shoot.

Some of the more popular point-and-shoot camera systems are the Ikelite Aquashot 3E, Sealife ReefMaster, Epoque 100 Plus, the Bonica Sea King Snapper, Sea & Sea MX-5 and Kodak Max. The Max is a one-time use, disposable camera, while the others allow film changes and long-term multiple use. As you'd expect, the prices vary accordingly. Made to get wet as is, the MX-5 is referred to as an amphibious camera, while many point-and-shoot camera systems such as the Aquashot 3E use a camera-in-a-water-proof-case design.

Point-and-shoot cameras are often referred to as fixed-focus cameras. The fixed-focus feature means that your subject just needs to be within a range of pre-determined distances from your camera in order to be in focus. The manufacturer will provide you with specific information regarding a given model, but as a rule, you will want to be two to six feet away from your subject, and you will want to photograph subjects that range

in size from your diving buddy to a large grouper. The closer you get to your subject, the smaller your subject can be; but if you get too close or too far away, your subject will be out of focus. Just fill a pleasing percentage of your frame with your subject from the right distance away, and take the picture.

Some point-and-shoot camera systems provide the option of taking close-up photographs of relatively small subjects by using an accessory close-up attachment. As a rule, the close-up, or macro, lens can be put into place or removed underwater, providing flexibility with regard to subject size.

Point-and-shoot cameras also take a "best guess" at providing you with properly exposed pictures, and for the most part, they do a good job. The camera systems come with a built-in flash, and with some models, it is easy to add a more powerful off-camera strobe. The better the water conditions, the more pleasing your image is likely to be.

It is a good technique to keep your pictures simple. Try to photograph a pair of angelfish over a coral head or your buddy looking at a big moray eel. Don't try to put a big scene into a single frame, because the clutter and out-of-focus elements will probably be distracting.

With a point-and-shoot style camera system you can discover how fascinating underwater photography can be, without a large initial investment. It's a deal that's hard to beat. 🐠

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Q&A on Orthopedic Problems and Diving

BY FRED BOVE, M.D., PH.D.

BACK PAIN IMPROVES AFTER DIVING

Q I have chronic lower back pain caused primarily by spinal stenosis. The only times I've been pain-free in the past two years have been while on diving vacations, doing two to five dives a day. There seems to be a connection between the additional pressure at depth and the pain relief, but when I've mentioned it to doctors, they write off

causing less pressure on nerves. Other divers have commented on arthritis causing less pain and stiffness after diving. Swimming is often used as a back exercise, and I wonder if the exercise itself is helping your back.

ARTIFICIAL KNEE JOINT

Q I am a 62-year-old female diver. I had a total knee replacement nearly five years ago. I am not aware of any trouble with my prosthetic knee before, during or after diving. In fact, everything usually feels much better. Have I just been lucky?

A There are many people diving with artificial joints. As long as you are able to use the knee normally, you should have no problem with diving.

ASEPTIC BONE NECROSIS

Q A friend developed a bone injury called aseptic necrosis that has caused him some disability due to injury to his hip. Is there any relationship between bone necrosis and diving?

A There is a well-known association between diving and aseptic necrosis of bone. Numerous papers have been published on the topic, and several workshops have been held with the purpose of reducing the risk of bone necrosis from commercial diving.

The Occupational Safety and Health Administration (OSHA) requires long bone X-rays in commercial divers to detect the disease early before permanent joint damage occurs. You will find a chapter on this topic in my textbook, *Diving Medicine*, published by W.B. Saunders, 1997.

ANKYLOSING SPONDYLITIS

Q I have been diagnosed with ankylosing spondylitis. I currently have a kyphosis [curvature] in the thoracic spine, degenerative disc disease in the thoracic and lumbar spine, and my neck has been fused at the C-5, C-6 vertebrae. My current medications are Celebrex, Flexeril, hydrocodone and

There is no evidence that disk surgery makes divers more prone to DCS. However, divers should be educated on how certain orthopedic surgeries, injuries and conditions can affect their diving.

the connection as anecdotal. The pain relief begins the first day of diving, and pain starts to come back 24 to 36 hours after the last dive. The difference seems remarkable to me. Has there been any research on the effect of increased pressure on lower back pain?

A I have heard both positive and negative comments from divers about back pain. In some people the pain gets worse when diving because the weightbelt bends divers in the wrong direction when underwater (more "lordotic"). However, some people have gas pockets in their intervertebral disks, and if the disks are compressed, there is the possibility that the bulging disks would be reduced in size, thus



Norflex. I would appreciate any recommendations you could provide or concerns that come to mind relating to diving.

A Ankylosing spondylitis is a chronic arthritic disease that causes inflammation, pain and deformity in the spine. Your ability to dive is compromised by the spinal deformity, not the medications. I would not recommend using hydrocodone on diving trips unless you use it after your last dive of the day for pain that is not responsive to milder medications.

You are prone to injury because of limited mobility and would have difficulty getting into and out of dive boats comfortably. The physical activity involved in getting into and out of the water is likely to be the most important limitation, not diving. You will need a dive partner who is willing to provide support with the physical part of the sport.

There are no studies indicating that diving would worsen your condition. Warm water and shallow diving (about 100 feet max) would be tolerated best. You should also have an echocardiogram to evaluate your heart valves, as these sometimes become involved with ankylosing spondylitis.

DISK SURGERY

Q Two weeks ago, I underwent a laminectomy to repair a ruptured lower lumbar disc. The surgery was successful, and I will be returning to work later this week. When I questioned my doctor about diving, he indicated that I should not dive any longer due to my increased risk for an embolism and DCS.

A There is no evidence that disk surgery makes you prone to DCS or AGE. You need adequate time to heal from the surgery, and with bone healing, the minimum time is eight weeks. I usually advise divers to wait three to four months before they return to diving.

An important consideration is the confusion between symptoms of a herniated disk and decompression sickness. You need to have a careful neurologic examination to determine if there are any residual abnormalities. Carry a note summarizing the findings so that you avoid being treated for DCS based on the residual findings after your surgery.

DISLOCATED SHOULDER

Q About two months ago, I dislocated my shoulder. The shoulder was relocated by an ER physician. As a result of this injury, I was told by my orthopedist that I stretched or slightly tore ligaments and tendons in the shoulder area. At present, I'm undergoing

physical therapy to restore strength and motion. There is no indication of damage to the rotator cuff. I'd like to go diving in about four weeks. Is there any risk of decompression sickness should the ligaments and tendons not be fully healed by that time?

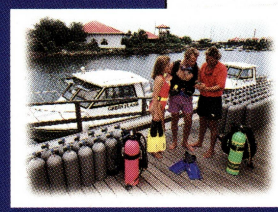
A There is only anecdotal information that an injury makes you prone to decompression sickness at the site of the injury. You should not have a problem with your shoulder and DCS from usual sport diving

exposures. If you are doing deep, mixed gas (technical) diving, you might be at some risk for DCS due to exposure, but the shoulder would be less likely than the spinal cord to be involved. Be careful when lifting tanks and climbing the boat ladder. You could dislocate the joint again by putting excess stress on your shoulder. 🐟

You can read more about diving medicine at www.scubamed.com.

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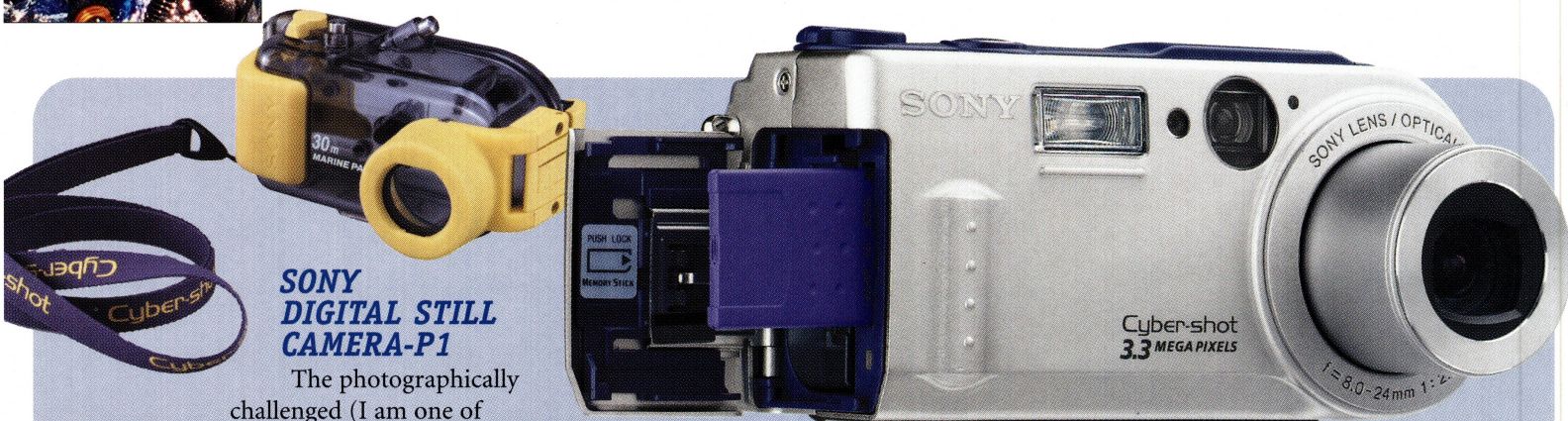
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gear and gadgets

by Daryl Carson



SONY DIGITAL STILL CAMERA-P1

The photographically challenged (I am one of them) have embraced digital camera technology like a long lost friend. It's the best way to take hordes of bad pictures without the wasted film and development costs. Sony's latest offering in the digital domain, the DSC-P1, is a super-compact 3.3 megapixel camera the size of most disposable point-and-shoots, and it allows for the wanton snapping of pictures both above and below the water. Its most notable feature for divers is a Marine Pack housing good to 100 feet and fitted for an optional base and video light.

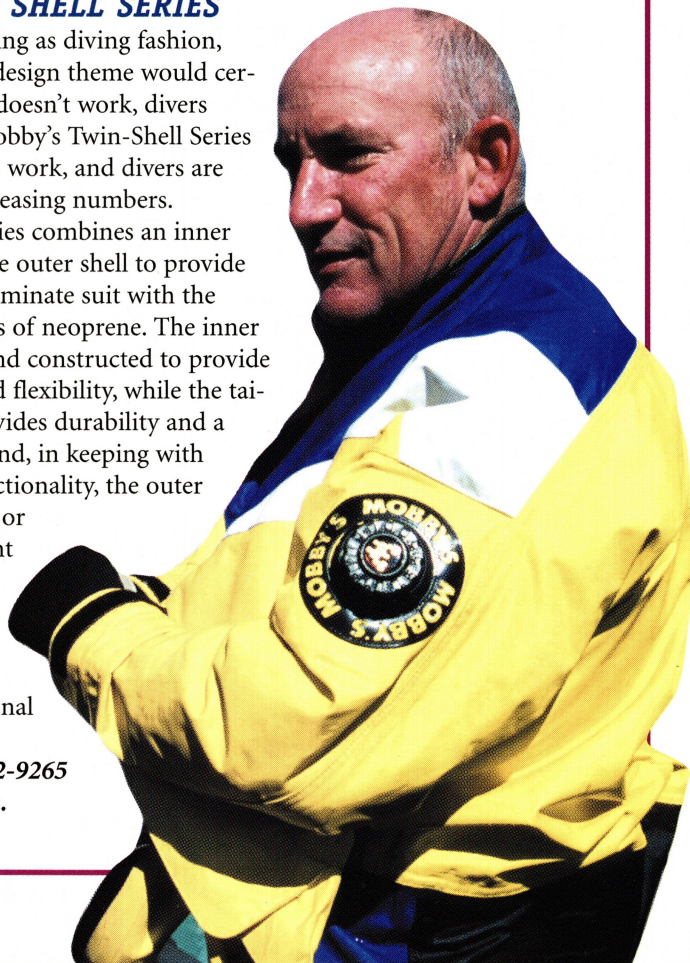
Among the DSC-P1's many functions are in-camera picture effects for cleaning up and cropping photos on-the-fly, and the ability to capture small video clips with sound. It also features white balance and auto orientations. But the DSC-P1's greatest feature, even housed, is its small size. Measuring a mere 4.4 x 2.1 x 1.75 inches, it's tiny, easily carried above water or below and the perfect companion for those of us short on photographic talent. *Sony: www.sony.com.*

MOBBY'S TWIN SHELL SERIES

If there's such a thing as diving fashion, then the prominent design theme would certainly be utility. If it doesn't work, divers don't wear it. The Mobby's Twin-Shell Series drysuits, however, do work, and divers are wearing them in increasing numbers.

The Twin Shell series combines an inner shell with a protective outer shell to provide the comfort of a trilaminate suit with the streamlining qualities of neoprene. The inner shell is lightweight and constructed to provide strength, warmth and flexibility, while the tailored outer shell provides durability and a minimum of bulk. And, in keeping with divers' desire for functionality, the outer shell can be changed or upgraded for different environments while the inner shell remains the same. In short, it's one of diving's most functional two-piece suits.

Mobby's: (972) 602-9265 or www.mobbls.com.



OCEANIC DELTA 3 REGULATOR

The new DELTA 3 from Oceanic retains the same quality as its predecessors, but in a new, smaller package with increased features. At the center of the design is the Diver Inhalation System. It allows divers to make fine adjustments to suit their diving style and conditions. This system is enhanced by a mechanically balanced Dynamic Adjustment feature that automatically readjusts the inhalation effort to maintain the same performance at any depth.

Oceanic: (510) 562-0500 or www.oceanicworldwide.com.



SUUNTO VECTOR

It seems every testosterone-infused activity has its signature hardware. Pilots have shades, bull riders have belt buckles, hockey players have porcelain teeth. And divers—we have watches. Like fraternity rings, they are the silent symbols that bond together the bubble blowing brethren.

The Suunto Vector, from Aqua Lung, is a diver timepiece that brings a quiet elegance to this proud tradition. Sleek but bold, it is more than just a watch. It's also an altimeter, barometer, compass and stop-watch. It has an altitude range of 29,500 feet, a temperature range of -5 degrees to 140 degrees F and a 24-hour memory that stores altitude and ascent/descent rates for every hour. The compass shows bearings in degrees and cardinal or half-cardinal points. Of course, it's also waterproof to 100 feet.

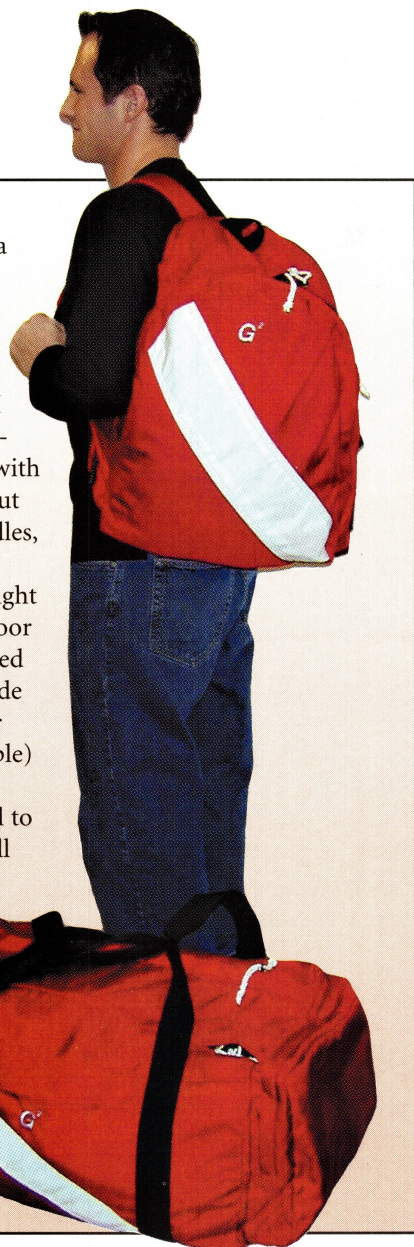
Aqua Lung: (760) 597-5000 or www.aqualung.com.

PUREFLIGHT GEAR

My philosophy when packing for a trip, be it to go diving or anywhere else, is to find the most appropriately sized piece of luggage and then cram it to the gills with everything I'll need and everything I *might* need. This provides good exercise (picture running through LAX with over-stuffed bags to catch a flight) but also puts a noticeable strain on handles, wheels, straps and seams.

So, happy I was to discover Pureflight Gear. Originally designed with outdoor and rescue pros in mind, it is designed for the most abusive conditions. Made from Dupont Cordura+ 1000 denier material and double (sometimes triple) stitched with bonded monocord sailthread, it holds up extremely well to over-loading and rough handling. All Pureflight Gear products come with a lifetime guarantee against defects and breakdown of materials.

Pureflight Gear:
(954) 428-1927 or
www.pureflightgear.com.

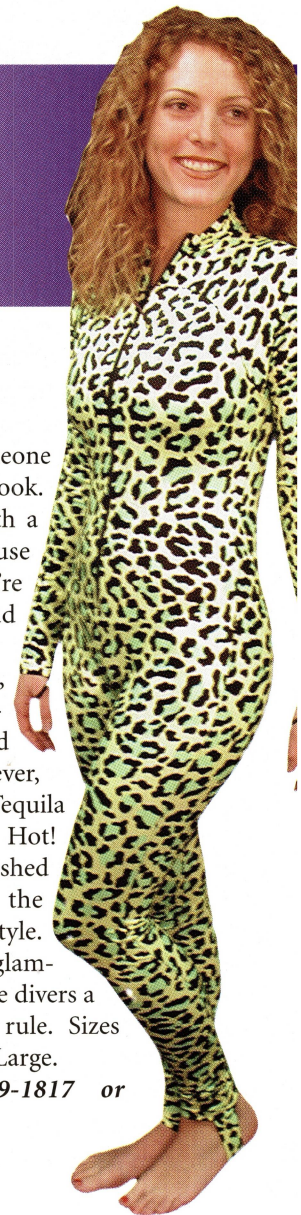


DIVE GODDESS DIVE SKINS

It takes a special kind of someone to pull off the Dive Goddess look. You have to be a diver, but with a sense of personal style, because these are not just dive skins, they're fashion statements. Really loud fashion statements.

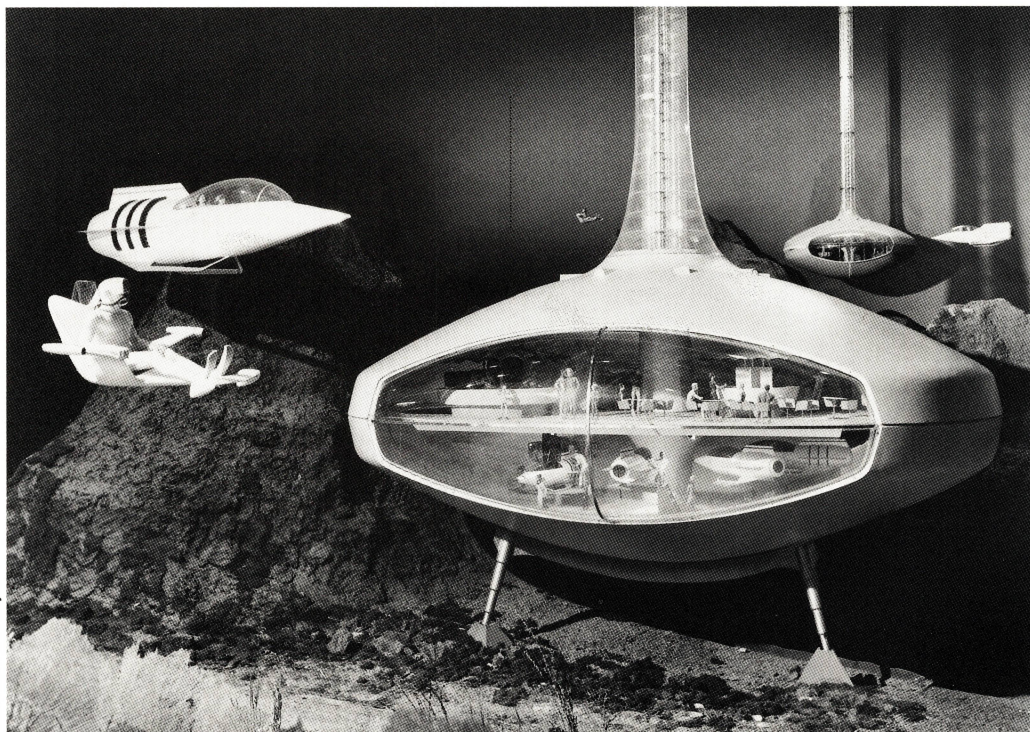
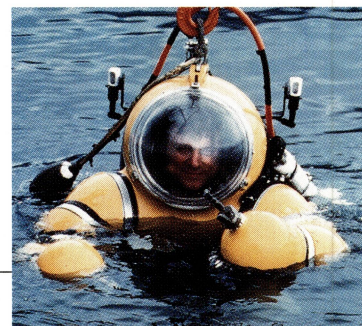
Like many quality dive skins, Dive Goddess suits offer protection from jellyfish, sunburn and ease the donning of suits. However, with colors like Aztek Purple, Tequila Sunrise, Purple Elegance and Hot! Hot! Hot! (pictured), divers can shed their inhibitions and grace the aquatic landscape in functional style. In a sport noted for its lack of glamour, Dive Goddess suits can make divers a conspicuous exception to the rule. Sizes available from X-Small to XXX-Large.

Dive Goddess: (817) 569-1817 or
www.divegoddess.com.



Looking Back and Beyond

BY PHIL NUYTEN



From "Tomorrow Under the Sea: The Reality of Underwater Resorts Is Closer Than You Think," an article by Ellsworth Boyd, printed in *Skin Diver*, April 1967. This futuristic mock-up depicts a sportsman aboard an aquascooter sailing past a plush underwater hotel.

Wow! Fifty years of *Skin Diver* magazine—hard to believe time has passed so quickly! *Skin Diver* was about one year old when I first borrowed a couple of tattered copies from Jim Willis, the teenage president of the Vancouver Skin-Divers club. There were only six active members—including myself—but these copies looked as though they had been read by thousands. Each new issue was awaited eagerly, read avidly and discussed endlessly on our Sunday dives. Imagine the excitement a few years later, when our little club got a *Skin Diver* cover picture—and a year or so after that, another one. Those two issues became sacred relics and were passed around until they fell to bits. I've been in the diving industry pretty much since those days, and though I haven't quite fallen to bits, I do know the feeling.

Fifty years is a significant number. We seem to be living in a time of significant numbers—indeed, according to the latest population

growth rates, we are a significant number—6.3 billion strong at last count. If you are a baby-boomer, then more people have been born in your lifetime than had previously existed in all of history!

Massive, fundamental change is all around us. Witness the digital revolution—ones and zeros have become the most significant numbers on this planet. What I find mind-boggling is not just the replacement of the machine age with the digital age, but how fast it is happening—an almost exponential increase that would seem to indicate that we are nearing some undefined goal. The rate of increase in system capability seems only matched by the rate of reduction in size, weight and cost.

So, you may ask, what's the point—what has this to do with things underwater? Well, after the digital revolution, nothing will be quite the same. Divers of the next 50 years can look forward to a single image/audio acquisition system; not photography, not cinematography, nor videography—but a single instrument, a sensory recorder, that will acquire data, store it and give it back as audio and images at the high end of our acuity. Listen up, all you underwater photographers! Each minute of video gives you 1,800 still frames to choose from. No, the resolution is nowhere near as high as film, but it will be when those numbers, those fast, significant, numbers, have crunched a resolution fine enough for print.

GO FISH, NO FISH

Not all fast, significant numbers are good ones, though. There is a group called Sea-Space Symposium that is comprised of leaders in space exploration and the ocean industries. At a recent meeting in Washington, D.C., I listened to one of our members, Sylvia Earle, talk about these significant numbers. "Thirty years ago we consumed an estimated 90 million tons of seafood per year, primarily fin-fish. Now, the number is higher—even as stocks continue to fail. We will require up to 125 mil-

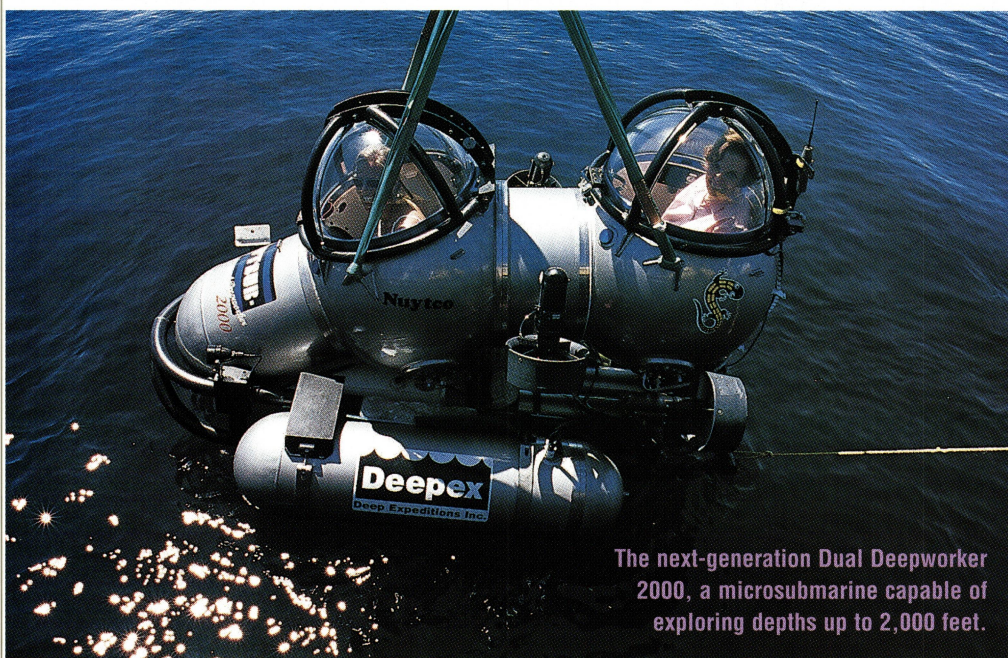
lion tons per year in a few decades, and it cannot come from wild stocks.

"Would it make any difference," Earle continued, "if I told you that it takes a little over two pounds of plant material to grow one pound of chicken—versus 100,000 pounds of plant material to grow one pound of tuna?" A shocked silence from her audience. "On the other hand, the tuna sandwich decision may be self-solving," Earle said, "since the Blue-fin Tuna population is currently only about 20 percent of its previous size."

The progress of the past 50 years will have to

Sustainable Seas Expeditions (see www.nationalgeographic.com/seas). It is a partnership between the National Geographic Society and the U.S. National Oceanic and Atmospheric Administration (NOAA) to investigate and conduct research in the 12 U.S. Marine Sanctuaries (see www.sustainable-seas.noaa.gov).

"With the help of one-person submersibles called DeepWorkers," stated in *National Geographic*, "the expedition scientists will photo document the plants and animals that inhabit the uncharted regions



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be balanced with the progress of the next 50 if we are to be sustained by the sea of tomorrow.

SUBMERSIBLE SCIENTISTS

Underwater scientists are trying hard to find some of the answers for both the near and distant future; Earle currently heads the

of the sanctuaries and study the overall health of the marine environment. Online dispatches, live video and audio links, and chat rooms will enable ocean enthusiasts to share in the aquanauts voyage of discovery."

It's just one more example of significant numbers. 🐠

NEWT FRONTIERS

It is my intention to treat this column as part technical workshop, part soap box and part sand-furrow—to winnow up esoteric debris!

If you have any technical questions, fire away, and I will do my best to answer those of general interest. A slightly expanded version of the column will be posted at www.newtsite.com following each issue, so I can refer to previous columns.—P. N.

Phil Nuytten, PhD, (pronounced NEW-TEN) has been involved in diving since his teens. Among his many achievements, he developed the world-famous Newtsuit, the

submarine rescue system, Remora, the Deep-Worker micro-submersible and, recently, the free-swimming Exosuit. His credentials and awards are numerous, including the prestigious Order of British Columbia, a NOGI award from the Academy of Underwater Arts and Sciences, and the Lowell Thomas Award from the Explorers Club of New York.

Nuytten was hand-picked by Skin Diver's most popular columnist, the late E.R. Cross, to continue his service to the diving community through the pages of Skin Diver. We are proud to present this new column to our readers. Questions for Nuytten can be e-mailed to skin-diver@emapusa.com.

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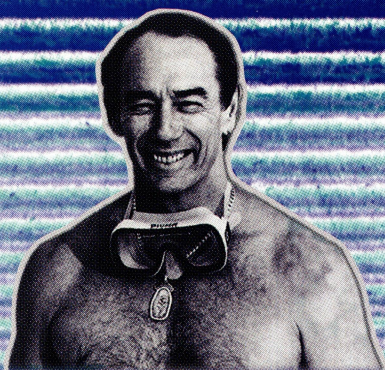
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A NEAL WATSON'S UNDERSEA ADVENTURES AFFILIATE

birth of the c-card

SKIN DIVER'S PARTICIPATION IN THE growth of diving has perhaps been nowhere more direct than within the development of dive training. In the '50s, as Skin Diver was beginning to grow, learning to dive was self-taught, often from instructions that came with a piece of dive gear.

By 1954, however, organized instruction began to develop regionally. In Los Angeles, the LA County Department of Parks and Recreation, under the leadership of Al Tillman, began offering instruction, and YMCAs across the country were becoming involved.

In the midst of this evolution, in 1959, *Skin Diver's* "Instructor Corner" column began, written by Neal Hess. It was the only regular communication about scuba instruction available, and it became the one place where instructors could share ideas about training people to dive. And that training was macho and tough; only the strong survived, and by damn, that's the way they wanted it!

The first nationally promoted instructor course was held by the YMCA in August 1959, and 22 candidates, including such industry notables as Frank Scalli, later to become the YMCA Underwater Activities Program's National Commissioner and sales manager of U.S. Divers, graduated. Shortly thereafter, Hess' *Skin Diver* column, which had given birth to the National Diving Patrol, began discussing the need for a



New England divers, circa 1958, crowd the shore for a checkout dive.

Photo/H.C. Williams

national scuba instructor's association. In August 1960, Art Ullrich in California and Ben Davis in Toronto formed NAUI, the National Association of Underwater Instructors. Its office was at *Skin Diver* and "Instructor Corner" became its column. NAUI's first instructor training course was conducted that same year in Houston, and in 1961, NAUI published the first entry-level dive training standards.

As dive stores began emerging, the need for in-store instruction was recognized, and in 1961, John Gaffney, then advertising sales manager for *Skin Diver*, formed NASDS, the National Association of Skin Diving Schools. While the YMCA and NAUI were focused on individual instructors, NASDS dealt with store owners, and individual instructors could only teach within member dive stores.

By 1966, in Chicago, U.S. Diver's salesman (and eventual CEO) John Cronin and coach/educator Ralph Erickson had seen the need for an organization focusing on a more formal teaching approach and encompassing both stores and instructors—PADI (the Professional Association of Diving Instructors) was born. Its then controversial introduction of continuing diver education gave PADI its start; it introduced the first instructor magazine, the *Undersea Journal*, the following year.

In 1970, NASDS board members Bob Clark and Ed Brawley broke away from NASDS to form SSI (Scuba Schools International), further developing the store-centered instruction concept. Brawley later went his own way to form PDIC (Professional Diving Instructors College).

Diver education became increasingly formalized during the 1970s. All the agencies published instructor manuals and NASDS, PADI and SSI published student textbooks. In 1975, PADI introduced the concept of a formal training course for its Course Directors (instructor trainers), and the concept of instructor colleges also emerged, with schools opened by NASDS, PDIC and PADI. While most of the agencies were of similar size early in the decade, PADI's establishment of the modular scuba course in 1978 and standardized performance-based instruction changed dive training drastically and led to the company's rapid growth.

The 1980s saw a boom in diving, associated with the increasing sophistication in teaching techniques and educational support materials. Learning to dive became fun and easy, available to more and more people. And, despite the dire predictions of the traditionalists, diving's safety record improved drastically as a result. NAUI introduced a new textbook, SSI



Early dive training was often influenced by military practices and standards.

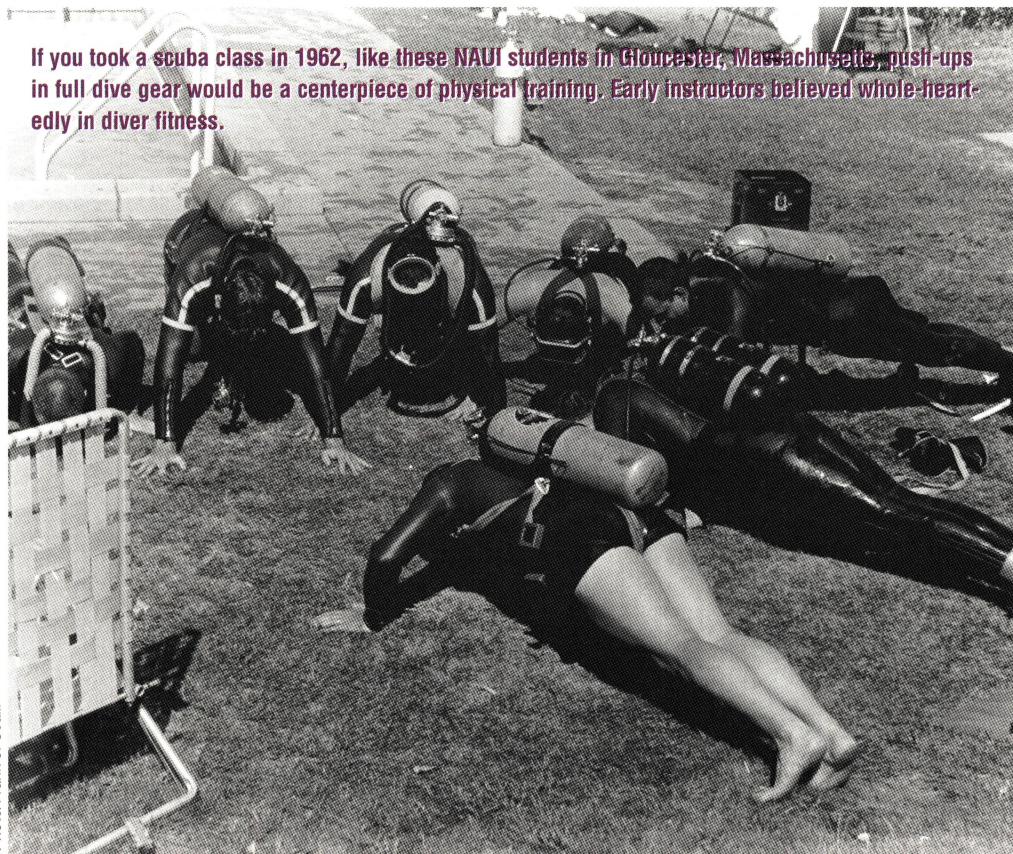
developed its complete open water diver training system, including videos, and PADI began producing text books and videos for each progressive course in its continuing education system. Perhaps the most important occurrence, however, was the development of industry standards by the certification agencies and the formation of the RSTC (the Recreational Scuba Training Council). For the first time, an industry-wide minimum standard for teaching diving was created.

The 1980s, with industry growth and a rapidly expanding need for instructors and resort divemasters, saw another new phenomenon—the emergence of dive store-based instructor training facilities. Operations such as Divers Unlimited, Pro Dive, Hall's, Dixie Divers and Ocean Divers became major centers for instructor training.

Into the 1990s, technical diving appeared on the scene. Tom Mount's IANTD and Brett Gilliam's TDI began developing training standards for teaching nitrox, rebreather and mixed gas diving. NAUI became involved as well, and PADI eventually entered the market. The decade also saw the introduction of a new recreational diving organization, SDI, formed by TDI. Educationally, the industry kept up with developing technology, and computer-based instruction, led by PADI and NAUI, hit the scene.

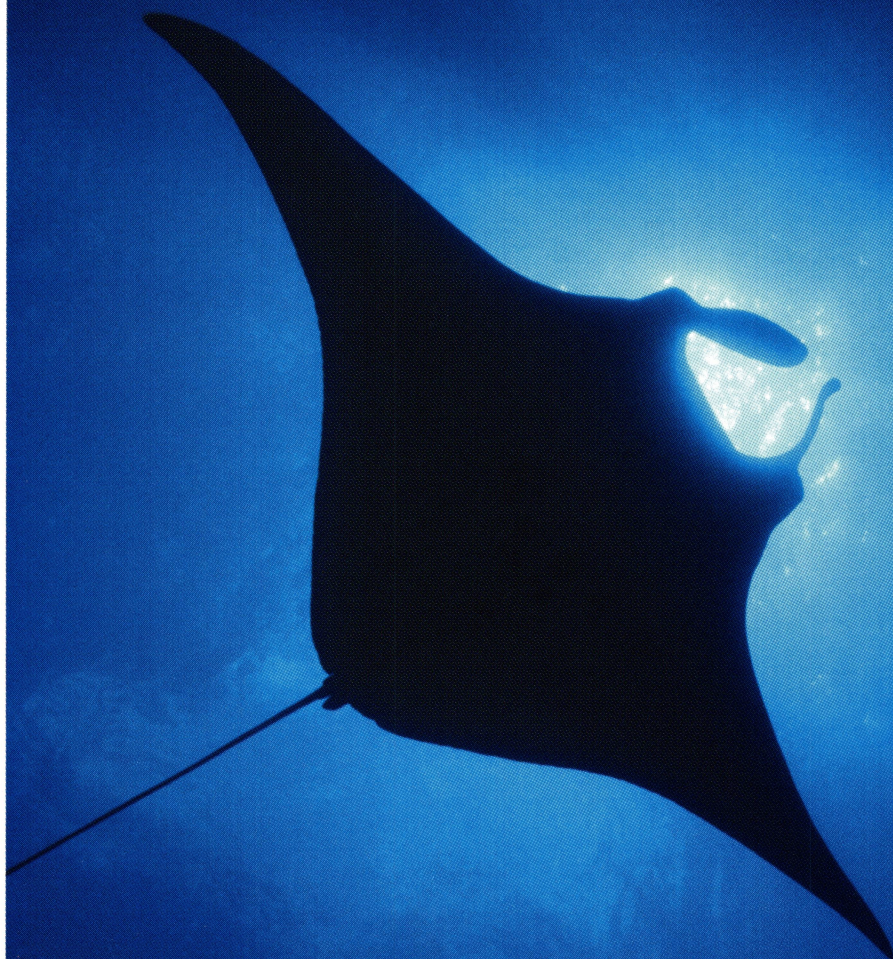
In recent years, a new direction has emerged, that of family oriented diving—including the kids. Wayne Hasson's development of the SASY unit in conjunction with the lowering of the age for scuba instruction from 12 to 10 (first initiated by SDI and then put into place throughout the industry), has opened the door for diving's next chapter. It's hard to say just what that will bring, but one thing is for certain—*Skin Diver* will be there, a partner as it has been for 50 years. 🐠

If you took a scuba class in 1962, like these NAUI students in Gloucester, Massachusetts, push-ups in full dive gear would be a centerpiece of physical training. Early instructors believed whole-heartedly in diver fitness.

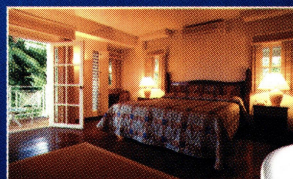


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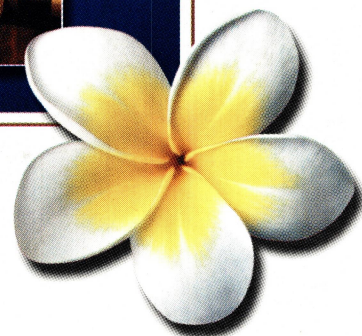


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SPECIAL ADVERTISING SECTION

Cayman Islands, Then and Now

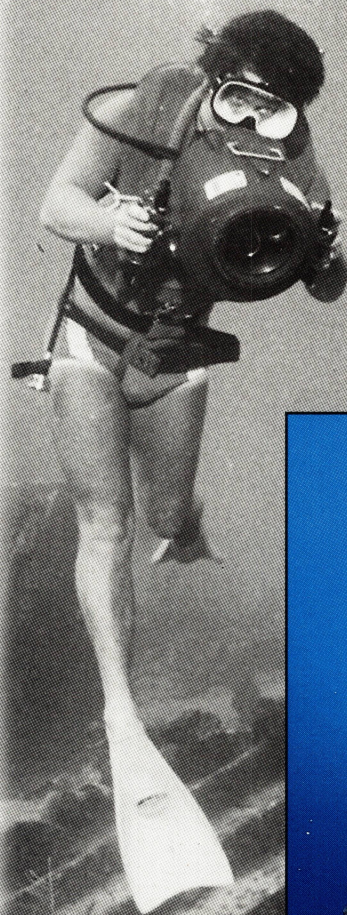
By Jim Walker

The Cayman Islands is recognized as one of the world's premier diving destinations and, to many, it sets the standard for what a diving destination should be. Nowhere else in the world will you find such an incredible combination of easy access, clear, warm water, vibrant marine life, mild climate, friendly hospitality, safety, diving infrastructure and entertainment options. It's a perfect destination for every age and level of diver, including families.

As with sport diving in general, the Cayman Islands has come into its own in the last 50 years, and its maturity into the multifaceted destination of today has occurred most rapidly during the last 20 years. As we've entered a new millennium, it seems appropriate to look back on the last half-century in the Cayman Islands and highlight its amazing development. And though, like in all diving, early conditions may have been primitive by today's standards, the people of the Cayman Islands have always been forward-thinking. That's why they enjoy one of the highest standards of living in the Caribbean, and their islands retain their natural wonders both above and underwater.

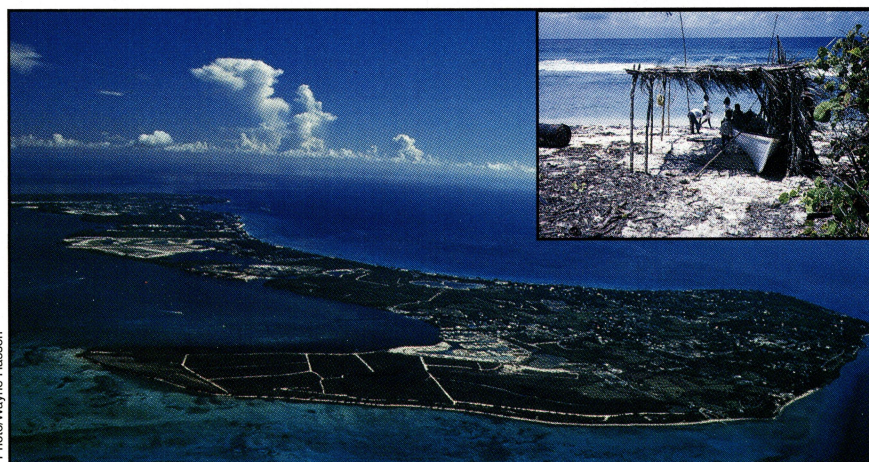
Setting the Stage

There are two important changes that set the stage for the development of tourism in the Cayman Islands—and both of them have to do with things that fly. First, the introduction of convenient air service to the Caymans was made possible by the construction of Owen Roberts International Airport, on Grand Cayman, in the early 1950s. Since that time, access to these islands has become easier and easier, and it's no coincidence that the islands



Photo/Greg Johnston

Photo/Jack McKenney



Photo/Wayne Hasson

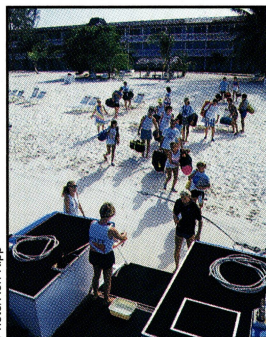
Photo/Jim Church

Above: An aerial view of today's Grand Cayman. Inset: Idyllic Seven Mile Beach in 1972.
Below: *Holiday Diver* drops off divers at the beach in front of the old Holiday Inn in 1982.

have developed along with it. Today, daily flights reach Grand Cayman directly from North American cities (Miami, Tampa, Orlando, Houston, Detroit, Philadelphia, Charlotte, New York and Newark). Several flights a day connect Grand Cayman with her sister islands Cayman Brac and Little Cayman.

The other flight-related development in the Cayman Islands is mosquito control. In the early days, divers could only escape from these airborne pests underwater or in the noonday sun. However, a concentrated mosquito abatement program was initiated in the late 1960s and stepped up in the early 1970s. It has worked so well that mosquitoes are scarcely even a consideration now. In the old days, local divers even participated in the effort, volunteering to drive a little car, equipped with a fogger, around the neighborhoods.

There have been many other milestones in the development of the Cayman Islands, as each facet of the dive/tourism industry grew. However, it's a bit of a chicken or egg argument to try and decide which led to which. The



Photo/Ron Kipp

condominiums, quaint cottages and international resort chains.

Diving Services

The first organized diving service in the Cayman Islands was opened by local diver Bob Soto in 1957. His operation consisted of one small Chris Craft with an outboard motor, five or six scuba tanks (some fashioned from fire extinguishers), and one converted World War II bomber compressor. Later, Bob introduced drop-front boats that could load and unload divers right on the beach. He also operated the islands' first live-aboards. As Cayman tourism grew, other dive operators came on the scene, and many of them are still leaders in the industry. Bob eventually sold his live-aboards and, in 1980, he sold his dive operation, which still bears his name.

The expansion of diving services on Grand Cayman has followed the development of the island in general and, today, there are 37 dedicated scuba services and one live-aboard operating there. Though diving services arrived much later on the Sister Islands, there are now four on Cayman Brac and six on Little Cayman. One live-aboard is based at Cayman Brac but also covers Little Cayman. And, Cayman dive operators can accommodate a wide variety of interests. Photo and video services, for example, are easily found.

This growth, however, has not been without an appreciation for the pioneers of diving in the Cayman Islands and the history of diving around the world. This past October 19, diving pioneers, including Lloyd Bridges, Jacques Cousteau and Bob Soto, were inducted into the International Scuba Diving Hall of Fame on Grand Cayman. (The ISDHF hopes to have a permanent home on Grand Cayman soon.)

Environmental Programs

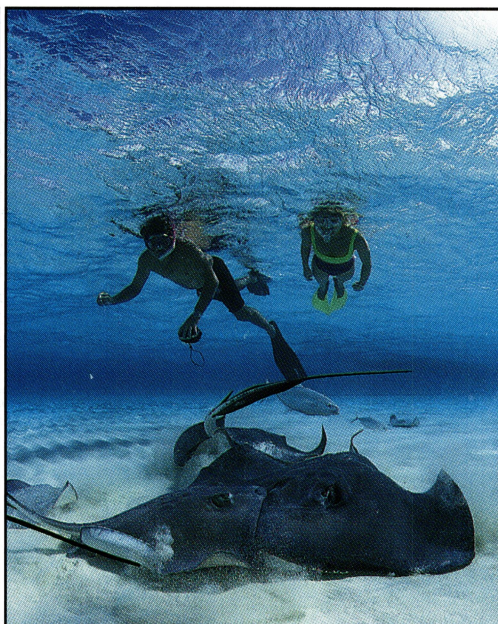
Early sport divers were primarily spearfishermen, and the divers arriving in the Cayman Islands were no exception. However, as Cayman tourism grew, and the numbers of divers increased, the operators realized



Photo/Greg Johnston



Photo/Greg Johnston



Photo/Greg Johnston

they were harvesting the very resource that brought divers in the first place. Private and public efforts to eliminate spearfishing in the Cayman Islands gradually gained momentum and, today, it is prohibited by law. But the modern, environmentally conscious divers visiting the Cayman Islands would much rather take photos than fish, anyway.

The ecological awareness of the Caymanian people has led to the development of animal sanctuaries and environmental zones onshore and, in 1986, a comprehensive system of Marine Park Zones, Replenishment Zones and Environmental Zones was put in place offshore. Each of these offshore zones has its own beneficial restrictions, and the government maintains a system of over 200 permanent moorings at well known dive sites to prevent anchor damage to coral. Beyond this, there's the Cayman Turtle Farm. For many years the farm has raised and released marine turtles into Cayman waters, replenishing this valuable resource.

In 2000, internationally renowned environmentalist, Jean-Michel Cousteau, became the official spokesperson for the Cayman Islands diving community. He will continue to expand the virtues of responsible diving and snorkeling in the destination's pristine waters.

Amenities/Entertainment

Early divers were primarily concerned with diving and were willing to put up with a lack of

amenities. And lack there was in the old days. As late as the early '70s, there were no street lights and only one true grocery store in George Town. Finding a telephone often required a long walk from your hotel. Eating out could be an adventure, with one early diver remembering a restaurant serving nondescript blocks of beef because the "chef" didn't know how to cook it.

Today, the Cayman Islands is intimately linked with the modern world. On Grand Cayman, there are multiple grocery stores and shopping centers, streetlights and stoplights, rental cars, television, mobile cellular service and every product and amenity you can think of. Eating out runs the full gamut from fast food to fine dining. While you can still easily find a secluded getaway here, you can also find a vast array of entertainment options. The watersports options go far beyond scuba diving, with sailing,



Photo/John Ferguson



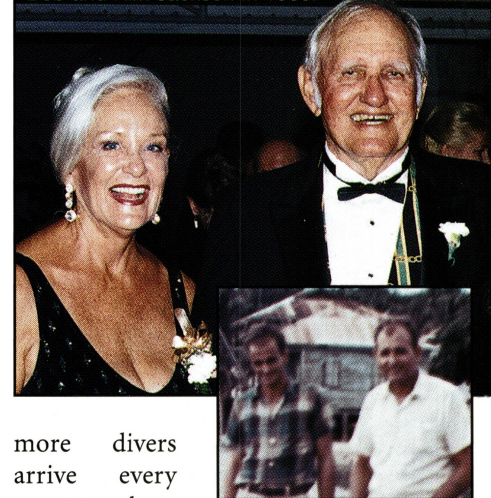
windsurfing, personal watercraft and even submarines and semi-submersibles available.

The Caymanians have made concentrated efforts to preserve their history and culture, too. There are historical sites, such as Pedro St. James Castle—the birthplace of democracy in the Cayman Islands—and the Cayman Islands National Museum in George Town is a good place for the modern visitor to see how things used to be.

Outlook for the Future

Of course, the diving, itself, has always been extraordinary in the Cayman Islands. But over the years, the awareness of it has grown until the names of legendary Cayman sites roll off the tongues of divers around the world—with new ones being born all the time. More and

Bob and Suzie Soto at Bob's induction into the International Scuba Diving Hall of Fame. Inset: Bob and Kim Jackson in 1960.



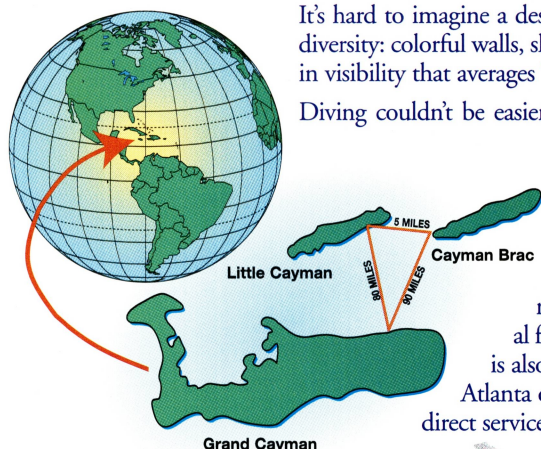
Photo/courtesy Bob Soto

more divers arrive every year to share these wonders. Yet, because of the Marine Park Zones and moorings, and because of the environmental consciousness of the dive operators and divers, many old timers, who have watched the changes occur in these islands, feel the reefs and marine life are even more vibrant today than in the past. But they know that development onshore must be closely monitored and feel the Marine Park system needs to be expanded and closely managed. The government and watersports operators continue to work closely together to conserve the precious natural resources. This will ensure that the Cayman Islands remains among the elite dive destinations of the world for the next 50 years—and beyond.

Photo/Jim Walker

SPECIAL ADVERTISING SECTION

Getting There/General Info



It's hard to imagine a destination that offers dive travelers more than the Cayman Islands. Underwater there is incredible diversity: colorful walls, shallow coral reefs, new and old wrecks, and friendly, photogenic marine life. Divers enjoy all of this in visibility that averages 75 to 100 feet and water temperatures from 79° to 83°F.

Diving couldn't be easier anywhere. The topside dive services are state of the art and just as diverse as the underwater attractions. There is a dive operation to suit every need, every budget and every wish.

The three islands are very different. Little Cayman and Cayman Brac are sparsely populated and quiet. Grand Cayman offers a little of everything. The capital of George Town has every modern amenity but there are quiet, laidback areas as well.

While great dive destinations often require difficult travel, the Cayman Islands are easily reached—they're just a little more than an hour's jet flight from Miami! In addition to Miami, national flag carrier, Cayman Airways, provides non-stop service from Orlando, Tampa and Houston. There is also non-stop service to Grand Cayman from Newark on Continental Airlines, New York (JFK) and Atlanta on Delta, Detroit on Northwest and Philadelphia and Charlotte on US Air. British Airways offers direct service from Gatwick to Grand Cayman and inter-island travel is provided by Island Air.



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Dive 'n Stuff	(345) 949-6033
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Divers Down	(345) 945-1611
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Fisheye of Cayman	(800) 887-8569
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Ocean Frontiers	(800) 544-6576
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Peter Milburn	(345) 945-5770
Quabo Dives	(345) 945-4769
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Rivers Sport Divers	(345) 949-1181
Scuba Sensations	(800) 767-0445

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Seaview Dive Centre	(345) 945-0577
Seven Mile Watersports	(345) 949-0332
Soto's Cruises	(345) 945-4576
Spanish Bay Reef	(800) 482-3483
Sunset Divers	(800) 854-4767
Tortuga Divers Ltd.	(345) 947-2097
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Pirate's Point	(345) 948-1010
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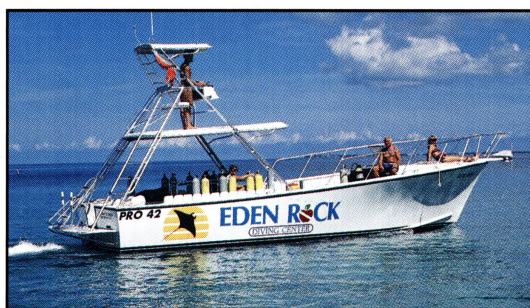
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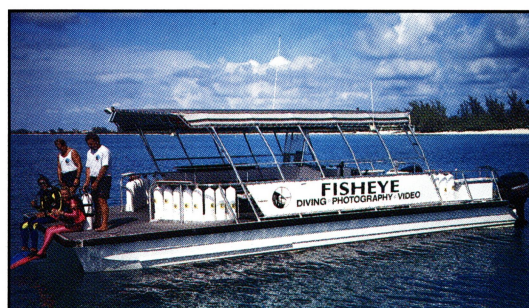
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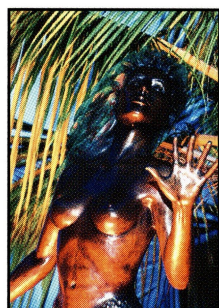
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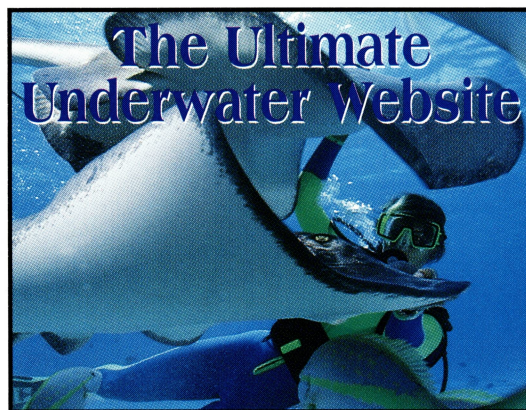
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Divers Chart a Course for the Future at DEMA 2001

Dive industry professionals can explore the most comprehensive collection of scuba diving, water sports, adventure travel and snorkeling products and services from hundreds of businesses—without even getting wet. The Diving Equipment and Marketing Association (DEMA) Show 2001 comes to New Orleans January 24-27. More than 15,000 people will attend DEMA's special 25th anniversary, an event featuring innovative products from more than 800 exhibitors, representing 121 countries from all over the globe, according to Regina Franklin, executive director.

"DEMA and our members have a lot to celebrate this year," said Franklin. "What started 25 years ago as a small trade show attended by only the most adventurous underwater enthusiasts within the industry has exploded into an event that sets the stage for the scuba diving industry as a whole...."

Divers now number in the millions and our technology is some of the most advanced in the world. This show serves as the beginning of a ground-breaking new chapter for the organization as we continue to support the development of technology that will spearhead the continued growth of the diving industry on a global scale."

This year's show in New Orleans will feature the following:

- A Hall of Fame and Diving History Museum in recognition of those individuals and entities responsible for shaping the diving industry.
- Hundreds of new product introductions featuring the latest technological advances.
- The Dive Travel Conference offering the opportunity for travel industry experts to learn how to take advantage of the growing dive travel market and Travel Destination Seminars, featuring exotic locations and premier diving spots.
- The First Annual Kodak/Sea & Sea Underwater, USA Cleanest Playground Award recognizing excellence in environmental awareness.
- Family Diving—showcasing new advances

in technology allowing even the youngest members of the family to breathe underwater.

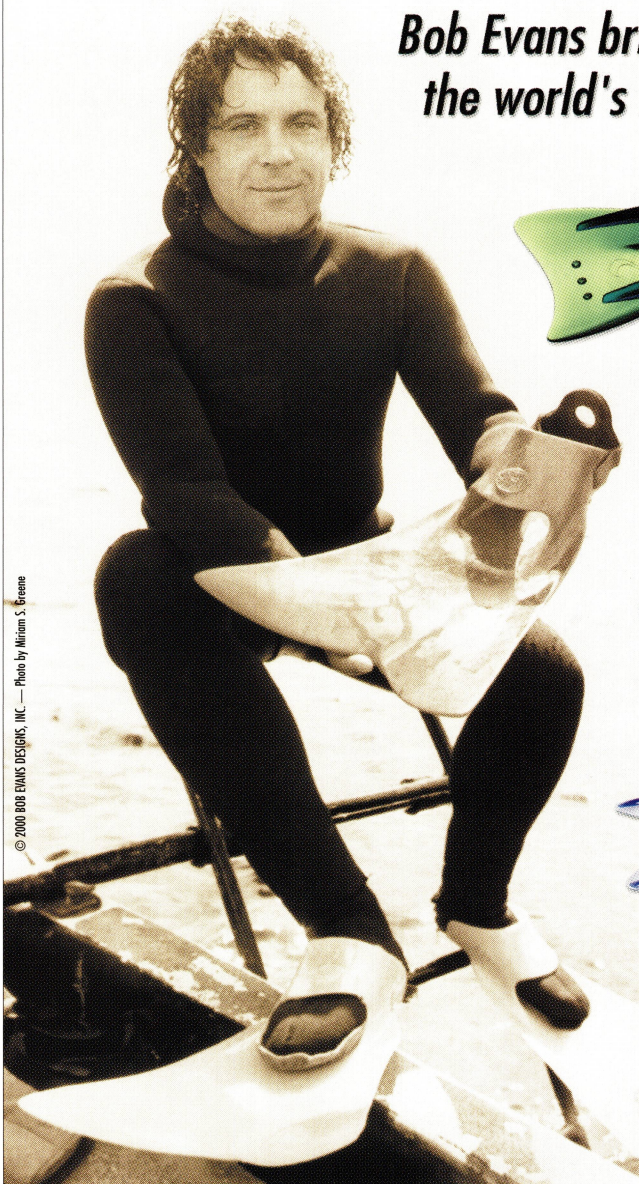
• The biggest names in scuba diving will be honoring some of diving's most influential leaders at the Second Annual Dive Industry Awards Gala hosted by DEMA, the Historical Diving Society and The Academy of Under-

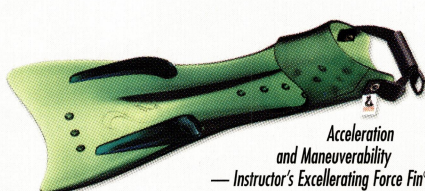
water Arts and Sciences.

• DEMA Goes Virtual—Offering a streamlined, interactive solution to the challenges of preparing for a trade show, exhibitors and attendees can now take advantage of DEMA's first virtual trade show at www.dema.org.

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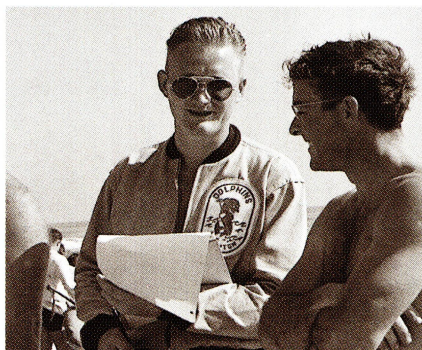
by eric hanauer

1951. WITH UNITED NATIONS FORCES STALEMATED IN KOREA, Harry Truman fired commanding general Douglas MacArthur. The first hydrogen bomb was set off at Eniwetok Atoll. "Catcher in the Rye" topped the best seller list. W.K. Kellogg and William Randolph Hearst died. Average household income was \$6,000. Diving in the United States was in its infancy. There were no dive stores, no classes or instructional agencies, no movies, television shows or publications devoted to the sport. Cousteau's Aqua-lung had made its first appearance in America two years earlier, but the majority of water lovers only had masks, fins and snorkels, staying underwater only as long as they could hold their breath. Their passion was spearing fish. They called themselves skin divers.

The epicenters of dive activity were clubs, which served as social groups as well as training centers, organizers of competitions and record keepers. Some had whimsical names such as Long Island Sand Fleas, Puddle Pilers, Honolulu Depth Devils, Nisei Kelp Tanglers and Sons of the Beaches. One such club was the Compton Dolphins, located in what was then a middle class community southeast of Los Angeles. Two of the active members were Chuck Blakeslee and Jim Auxier. Both had moved to California from the southern midwest, and had immediately taken to the ocean.



Photo/Courtesy Chuck Blakeslee



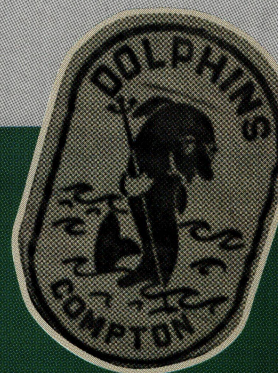
Photo/Julius Down

The two spearfishermen that started it all: Chuck Blakeslee, far left, suiting up off Catalina Island, CA, 1960; and Jim Auxier, judging a Compton Dolphins spearfishing competition off California, early 1950s.

Photo/Roberto Merio

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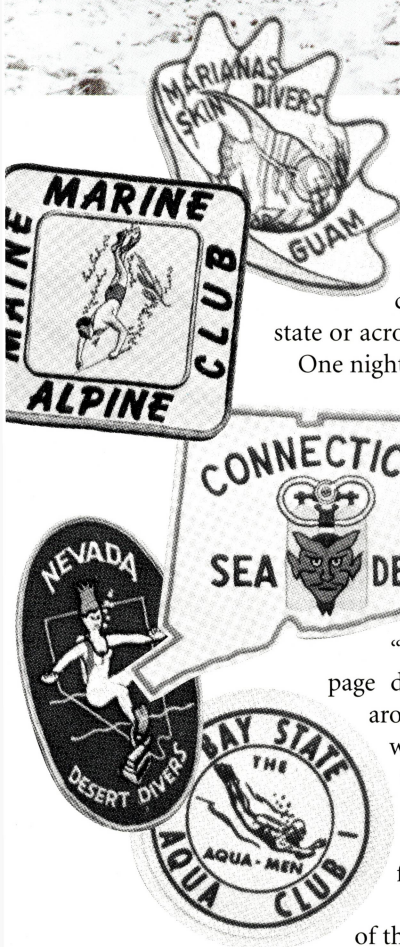
A spearfisherman with his eyes
on a dream prize, 1951.





Lawrence Spear and Fin Club of Lawrence, MA, on the coast of New Hampshire, 1950s. Clubs were the focus in the early days.

Photo/SDM Archives



There were already a hundred dive clubs in California. A Southern California Council had been formed, headed by Bill Barada, a fireman who was a champion skin diver in his spare time. But there was no organization to coordinate councils or connect divers across the state or across the nation.

One night after a club meeting, Auxier and Blakeslee discussed the situation. They decided to launch a monthly magazine that would be distributed nationally. It would be called *The Skin Diver*. Neither man had a journalism background, but Auxier was a linotype operator at a printing company. Blakeslee was a laboratory technician for Texaco.

"We printed up business and rate cards, and a 16-page dummy magazine," Blakeslee recalls. "Took it around to the existing dive industry, most of which was local, asking them to advertise. We got six in the first issue. Voit took the back page in two colors for their masks, fins and earplugs."

Two thousand copies of the first issue were printed, at a cover price of 25 cents. If you are lucky enough to own one today, it could bring upwards of \$1,000. But although the magazine was well received, growth was slow. Until 1954, the entire operation

was housed in Auxier's one-car garage; the two of them would work on the publication in the evenings after finishing their day jobs.

the wonder years

Reports came in from dive clubs around the country describing their activities. Striving to have their work recognized, authors submitted articles and photos without pay. They included Hans Hass, Jacques Cousteau, Clare Booth Luce and Arthur C. Clark. Among the early celebrity subscribers were Lord Louis Mountbatten and Gary Cooper.

Was *The Skin Diver* the world's first dive magazine? Blakeslee had thought so before receiving a gift from Egidio Cressi (of Cressi-Sub fame): an Italian publication called *Mondo Subaqueo*, dated 1950. "It had a four color cover, over 100 pages, but I never heard of it again. The Italians had the best equipment in those days. They had their spring guns while we still were shooting pole spears," said Blakeslee.

After using a post office box as an address until 1954, *The Skin Diver* moved to a small rented building in Lynwood. Eugenie Walker, hired as a secretary/writer at the end of the year, became the first employee. Blakeslee was president of the company and advertising manager; Auxier was the editor, and he did all the typesetting the first two years. "He was exacting as printer-editor; always tried to achieve perfection," said Chuck.

Carl Kohler, a humorous writer and cartoonist, came on board soon afterward. He wrote the mag-



Photo/Paul J. Tzimoulis

Bill Barada, head of the Southern California Council of dive clubs, fireman and champion spearfisherman, was a contributor for more than 30 years, from the magazine's inception.

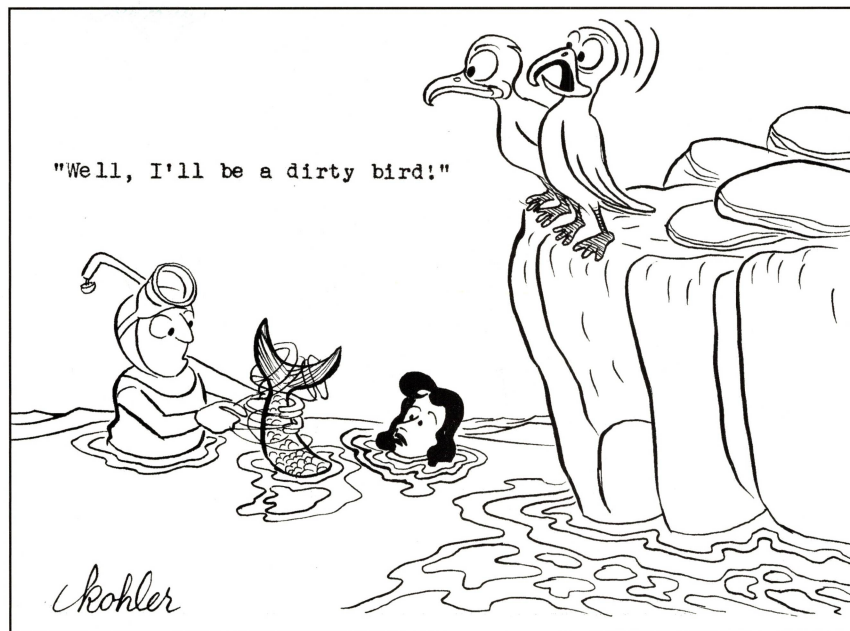
azine's first regular column, "Driftwood," consisting of letters from readers and funny stories. Blakeslee recalls, "He did things only once and they'd come out perfect, both writing and cartoons. And all this with only one hand." He was sensitive about that, and nobody ever asked him how it happened. A part-time staffer, Kohler also wrote for *True Confessions* magazines under various pseudonyms, assuming both male and female roles.

Another early column was "Technifacts," the longest running in the magazine's history. Lee Cozad and Bob Given were the original authors. E.R. Cross took over in 1964 and continued to write it for 36 years until his death in 2000.

Despite their busy schedules, Auxier and Blakeslee found time for diving. Both passed the Los Angeles County Underwater Instructor course during 1954, the first year of the program's existence. They became accomplished underwater photographers, using Leicas and Rolleimariners. Jim was a founding member of Los Angeles Underwater Photographic Society; Chuck was an organizer of their annual film festivals.

By 1956, Chuck and Jim had quit their day jobs. "The" was dropped from the magazine's title; its name became simply *Skin Diver*. Although that term is no longer used in diving, name recognition is so pervasive throughout the world that there is no thought of changing it.

During the first dozen years, 11 other American dive magazines were launched, struggled for a while, and finally went under. Among the titles were *Watersports*, *Underwater*, *Water World*, *The Waterbug*, *Diver Below*, *Sport Diving* and *Dive*. Blakeslee was also aware of 14 foreign magazines during that period.



Carl Kohler, humorist and cartoonist, wrote the magazine's first column, "Driftwood."

looking for someone, and I started working there 11 days after we arrived."

Blakeslee got more than he bargained for. "Connie covered all the bases," he said. "She could write, edit, do pasteup and dive when we needed abalone for the office parties."

John Gaffney was an advertising salesman for *Skin Diver* before leaving to start his own magazine. He worked by his own set of rules. At one time there was a salt water aquarium in the office, which was the basis

"Connie covered all the bases," [Blakeslee] said. "She could write, edit, do pasteup and dive when we needed abalone for the office parties."



Connie Johnson was managing editor for nearly 30 years.

Connie Johnson joined the team in 1957 and stayed on for 30 years, most of them as managing editor. Connie and her husband, Bob, were self-taught skin divers from Oklahoma, where he was finishing his Air Force duty and she was a newspaper reporter. "We bought regulators from a Chicago dealer. I read dive

manuals to Bob on the way to California, so we learned scuba in the car. The first thing we wanted to do was find an ocean..."

They were also into sports cars, so Connie's goal was to write for either *Road & Track* or *Skin Diver*. "I only got as far as *Skin Diver*. They were

of a series of "how to" articles. It contained some fishes and an octopus that had been taken from local tidepools. Connie recalled, "One day I couldn't find the octopus. I asked if anybody had seen it. John finally admitted he made a spear out of a rubber band and a paper clip, and shot it." Gaffney is remembered today as the founder of NASDS.

becoming a force

Skin Diver offices were the staging ground for many adventures, events and endeavors that changed the face of diving. One of them was the first national instructional agency. Neal Hess, a Californian studying for an advanced degree at Harvard, was writing a column called Instructor's Corner. It was a vehicle for instructors around the country to share techniques and ideas. In 1960, Auxier, Blakeslee and Hess decided the time was ripe to offer the first national instructor's course.

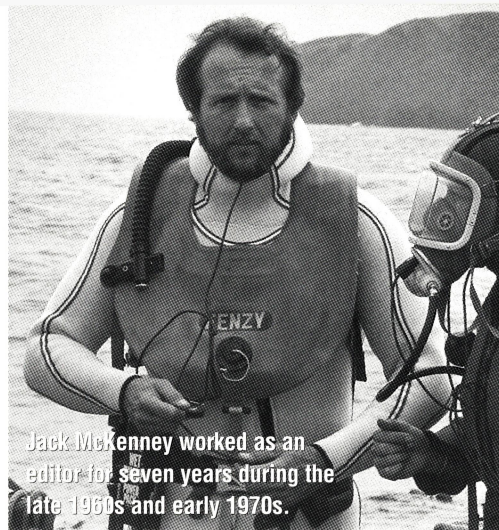
They invited the heads of the three major training agencies to join them and set up an instructor course. Seventy-two instructor hopefuls showed up at Houston's Shamrock Hilton Hotel for an intensive week

of lectures, testing and pool work. Fifty-two of them passed. Hess suggested National Diving Patrol as the name of the new organization, but they eventually settled on National Association of Underwater Instructors (NAUI).

In 1960, Al Tillman became director of promotions for *Skin Diver*. In that capacity, the magazine became involved in the most tragic event in its history: the Hannes Keller dive.

Keller was a Swiss mathematician who had developed a system of secret gas mixtures that would allow extremely deep dives with minimal decompression. After some successful trials in Europe, he planned to make a 1,000-foot dive in open water off Catalina Island.

Shell Oil supplied the support ship; *Skin Diver* was responsible for publicity and lining up the safety divers. The plan was for Keller to



Jack McKenney worked as an editor for seven years during the late 1960s and early 1970s.

Photo/SDM Archives

descend in a diving bell, accompanied by British journalist Peter Small. He would exit at 1,000 feet to plant Swiss and American flags on the sea bottom, then return and ride the bell back to the surface.

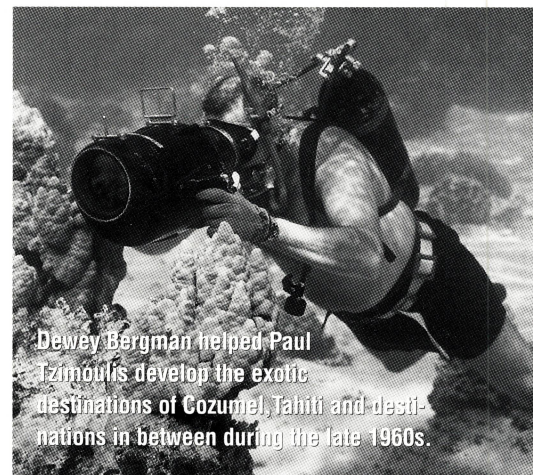
To this day, nobody knows for sure what went wrong. When the bell was winched up to 240 feet, both divers were unconscious and gas was leaking through a partly open hatch. Two safety divers then descended and cut off a counterweight, shooting the bell to the surface. Inside, Keller was unconscious, but quickly recovered. Peter Small was dead.

Tillman wrote in the February 1963 issue: "I saw darkness on December 3, 1962, off the coast of California, even though the sun shined brightly and the water glistened. I saw two brave and heroic men sacrifice themselves...to help write history..."

By the mid 1960s, mass media magazines like *Look*, *Life* and *Saturday Evening Post* all folded. The age of specialty magazines had arrived. *Skin Diver's* circulation was at 104,000, and publishing magnate Bob Petersen wanted a piece of the action. Petersen Publications was noted for car magazines, but its attempt at a dive magazine, *Water World*, had sunk. So in 1963, Bob made Jim and Chuck an offer they couldn't refuse. Blakeslee took the money and bought an avocado ranch in Carpinteria. Auxier also took his, but agreed to stay on as editor for three more years.

Before the founders step out of this story, they deserve a chance to sum up the changes they've seen. Unfortunately, Auxier suffered a stroke 15 years ago that affects his speech. So Blakeslee spoke on behalf of both of them: "There are many good things about today's diving, many negative...Today's gear is state of the art, while early divers had to make do with their own inventions. It's safer, with better training. Destinations are so convenient and so comfortable that any novice can go. Tour groups with leaders take the place of solitary exploration. Experiences (are) more orchestrated and not as individual..."

"As Wordsworth said, 'Nothing can bring back the hour of splendor in the grass.' Yet we have learned some lessons that will make the diving of tomorrow better."

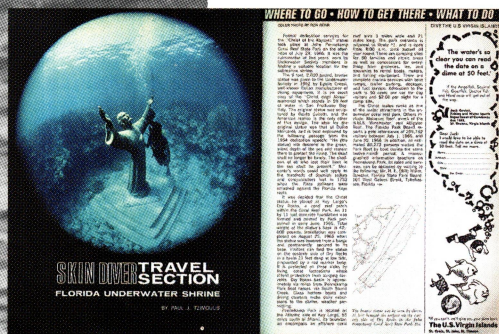


Dewey Bergman helped Paul Tzimoulis develop the exotic destinations of Cozumel, Tahiti and destinations in between during the late 1960s.

Photo/SDM Archives



Photo/Bob Cahill



exotic horizons

In 1964, Petersen hired Paul Tzimoulis, a pioneer east coast instructor and industry pro, to take over when Auxier left. Diving was turning away from hunting, toward travel and photography. Paul realized that and turned the focus of the magazine in that direction.

Paul Tzimoulis, a nationally known underwater photographer and pioneer east coast instructor, was hired in 1964 and took over as publisher/editor in 1967. During his tenure (1964-1998), Tzimoulis helped develop and grow diving and dive travel on a worldwide scale. Above: The Florida Travel Section, August 1967, was the first of its kind to appear in the magazine.

"When I joined *Skin Diver*, we started trying to develop dive travel. I first worked with National Airlines and Lee Turcotte to get group tours and packages from the northeast to Miami. That was the beginning. The next step was to make it more broad and exotic. Dewey Bergman, Bill Barada and I started to develop the exotic stuff. Our first promotion was to two areas, Cozumel and Tahiti. This was when Dewey started See & Sea Travel. Our first group had as customers Carl Roessler and Bob Hollis. Those were exciting times, a heck of an adventure because we were developing a whole new business."

Travel became Tzimoulis' passion. He not only wrote about diving destinations, he showed local operators how to grow their businesses.

"Many divers and operators didn't realize what they had at their fingertips," he said. "In 1966, I went to Israel with Jim Auxier, diving on a beautiful high coral head [in Eilat] with all the Red Sea creatures. I named it Moses Rock. That's the sort of thing we would do, highlight the spots and give them names: Stingray City in Cayman, Shark City in Palau. A lot of them stuck."

"In Yap, it was just a chance mention by Bill Acker that sometimes the fishermen are bothered by Manta Rays. My ears perked up and I said, 'Let's go take a look at that.' Bill [had] a phenomenal attraction [and] didn't even realize it."

Tzimoulis hired a team of talented people to round out a staff that grew to nine. Hillary Hauser and Nancy Ackerman served stints as editors. Paul's wife, Geri Murphy, became a contributor. Jack McKenney was an editor in the mid 1970s. He didn't stay long, preferring the adventure of independent filmmaking to an office job, although he continued to write for the magazine.

Bonnie Cardone was hired in 1976, and stayed 22 years. Although her titles evolved, she essentially was the editor of the magazine. "When I applied for that job, I knew I was meant to be there. It's like when you walk into a house, you know it's going to be yours," she said. Bonnie brought a strong journalism background and a love of diving. She discovered and mentored several new writers, including this one.

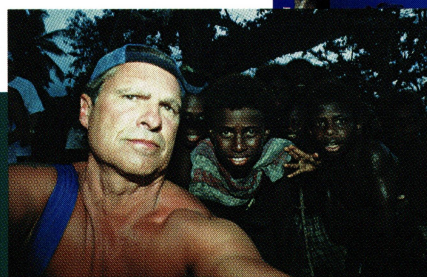
With the economy stagnant in the late 1970s, diving didn't grow much and neither did the magazine. But *Skin Diver* continued to put out the message until the boom of the 1980s lifted everything with it. Bonnie said, "We wrote about things that excited people. How else could they know about new equipment, travel, what attractions at what resorts? We helped grow the sport."

Bonnie Cardone was hired in 1976 and stayed on as the magazine's editor for the next 22 years.



Photo/Courtesy Bonnie J. Cardone

Al Hornsby takes a shot of himself and his new friends in the jungles of Papua New Guinea. Above right: The August 2000 issue explored the diving of Southeast Asia.



Photo/Al Hornsby

Publisher Paul Tzimoulis, Managing Editor Connie Johnson and Art Director Art Smith select photos in photo selection mode, circa 1970s.



Photo/SDM Archives

new era

The new millennium brought sweeping upgrades to the look and voice of *Skin Diver*. In 1998, Al Hornsby came aboard, first as editor then group publisher, and tackled the task—redesigning *Skin Diver* with the sensibilities and needs of the modern diver in mind. The days of black and white images came to an end in May 2000, when *Skin Diver* went all four color. The focus of the feature articles was drawn from the magazine's early history, and it celebrates the thrill and discoveries of today's dive adventure travel. The idea is that diving is about a lifestyle and experience like no other. Same as it was in 1951. Quickly on the heels of the redesign, the July 2000 oversized Photo Annual set new standards of quality throughout the industry. The redesign also branched out to the Internet as *Skin Diver Online* (skin-diver.com) became a hub of information with

destination sites to guide divers through the how, when and where of the world's top destinations, and more. Also, unique among dive websites, *Skin Diver* writers upload live updates while on assignment, so readers can follow on-site, as a story unfolds halfway around the world.

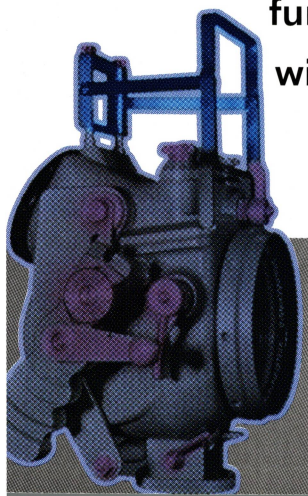
As a magazine written by divers for divers, *Skin Diver* has remained on the pulse of diving for 50 years.

That simple statement sums up the impact of *Skin Diver*. For millions of divers over the past half century, it has been their monthly portal to the magic of the underwater world. 🐠



from flashbulbs to digital

MY INTRODUCTION TO SERIOUS underwater photography took place in 1964. I'd recently won an award from the Monterey Dive Club for spearing the most fish when the late Ted Duffy, of the Seven Seas Dive Shop, said to me, "Jim, you're becoming a menace to the local fish population." I sheepishly responded that I didn't think diving could be any fun if I wasn't spearing something. "I have something special that I ordered just for you." Ted said, as he placed an amphibious Calypso camera on the counter. To cut to the chase, I bought the Calypso and trashed the speargun. Shooting fish with a camera soon became more fun than shooting fish with a speargun.





Wayne Van Dye of the Pacific Grove Looney Gooneys poses with a 16mm U/W camera that recorded on "color" film. Circa 1950s.

Jim Church remembers 50 years of Skin Diver's underwater photography

The first Nikonos—complete with viewfinder, flash and flash arm.



After a year of shooting fish with the Calypso (the precursor to the Nikonos), a 35mm lens and sunlight, I sat down and wrote an article outlining my experiences. I mailed the article to *Skin Diver* along with some four-by-five-inch, black and white photos in January of 1966. The magazine sent a postcard acknowledging receipt of the article, and my anxious wait began.

In early May, I reached into the mailbox and pulled out my copy of *Skin Diver*. A cover blurb in bright red letters which read, "Focus on Hydro Photography," immediately caught my eye. I opened to the table of contents and was shocked to see my name! I turned to page 32 and there it was: "A Beginner's Guide to Underwater Photography." The thrill of seeing my first article in print will stay with me as long as I live.

The article that received the greatest acclaim at the time, though, was the result of an accidental flooding. I'd opened my Calypso after returning from a dive and seawater spilled out. Sure the camera was ruined, I removed some outer plates and rinsed the camera under tap water. That night, I placed the inner camera in my gas oven, with just the heat of the pilot light, and amazingly, the camera functioned in the morning.

The following week, I photographed the steps I had used



Three photo "bugs" from the Lawrence Spear and Fin Club. Left to right: Henry Green with housed Leica, Bill Loeffler with 16mm movie camera, Ray Lussier using a Rolleiflex. Circa 1950s.



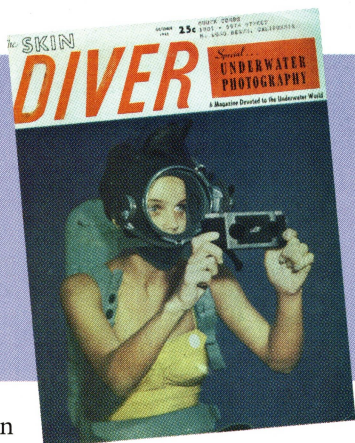
Chief Dick Johnson of the Atlantic Fleet Audio-Visual Command, shows inquisitive groupers that flashbulbs are not available for dinner. Andros Island, Bahamas, 1975.

to dry the camera, which included a photo of myself pouring water from a thermos into the open lens mount of the camera body. I wrote up the steps for repairing a flooded Calypso camera. *Skin Diver* was quick to print this article in the March 1968 issue. (Incidentally, my Calypso is still in working condition today!)

THE 1950s: THE PREHISTORIC YEARS

In 1953, I was a young navy metalsmith stationed at Adak, Alaska. (I was only about eight years old at the time.) I knew people were taking underwater pictures because I'd seen photographs. *Skin Diver's* first Underwater Photography issue came out in November 1953 and featured its first ever underwater shot on the cover. It was a grainy and mostly out of focus black and white image of Burton McNeely taken by Marge McNeely with a Kodak Duaflex in a plastic bag with a glass plate, but it stirred the imagination. I'd been hard-hat diving at Adak (it was cold) and

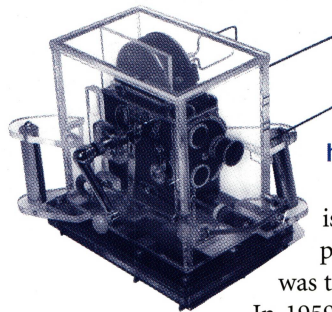
The October 1955 issue featured the first full color U/W photo on the cover. Jordan Klein took the shot of Dolly Fried using a Mako Rollei with Anschrome 120 film in the Gulf Stream.



decided that I, too, could take an underwater picture. I built a flimsy housing for my Argus C-3 and took it to the base swimming pool for a trial run. I triggered a few shots before the housing started to flood, and one shot of a swimmer turned out. (Actually, it was a close-up of some guy's crouch I'd accidentally triggered the shutter as we went past the lens—honest.) Wow! I'd taken my first underwater picture. However, not wishing to lose my camera in a leaky housing, and because I was leaving the Navy, the project ended.

During this era, black and white photography dominated the pages of *Skin Diver*, and usually the images depicted mighty spearfishermen or shipwreck relic hunters (and, occasionally, a beach temptress). This was also a decade of firsts. The November 1954 issue had the first woman diver to appear on the cover. The first full color image appeared in October 1955, taken by pioneer filmmaker Jordan Klein. The first wide angle color cover image didn't appear until July 1956, shot taken of Ginger Stanley in the crystal clear waters of Florida's Ginnie Springs. And the possibilities that photo represented blew divers, and especially burgeoning underwater photographers, minds. Before that the only wide-angle images to appear on the cover of *Skin Diver* were John Steel's famous paintings featuring manly men doing manly things.

Around that time, I purchased a book by the late E.R. Cross, *Underwater Photography and Television*. It had diagrams, photos of gear and photos taken underwater. As a kid who always took his toys apart to see what made them work, this book astounded me. When Mike Nelson appeared in *Sea Hunt*, in 1957, my eyes almost popped out of



Photographer Burton McNeely's home-made camera housing from 1954.

my head. I religiously watched every episode and snorkeled almost every weekend.

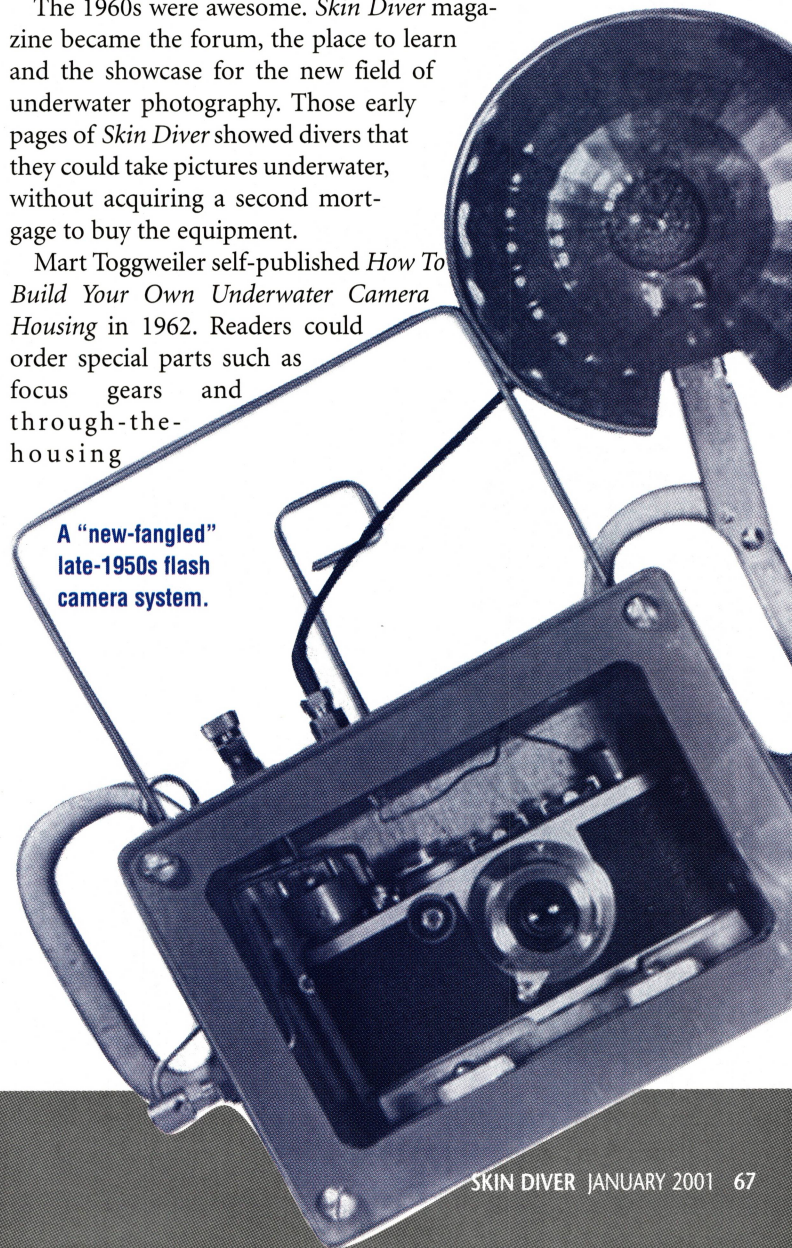
The April 1958 issue heralded *Skin Diver's* first U/W photography contest, harkening what was to come in the following decade.

In 1959, after five years of snorkeling, I purchased a set of twin tanks and a two-house regulator (just like Mike Nelson's on *Sea Hunt*) and headed for the California coast. There were no dive shops in the area, but a guy at the fire station would fill my tanks to 1,800 psi for a dollar. I didn't have an instructor or instruction book. The only reason I didn't get bent was probably because I didn't have enough air to stay down long enough, and the cold California water didn't encourage long, deep dives. Those of us who had tanks followed two rules: Never hold your breath when ascending, and never pass your bubbles on the way up. Somehow, we survived.

THE 1960s: THE DISCOVERY YEARS

The 1960s were awesome. *Skin Diver* magazine became the forum, the place to learn and the showcase for the new field of underwater photography. Those early pages of *Skin Diver* showed divers that they could take pictures underwater, without acquiring a second mortgage to buy the equipment.

Mart Toggweiler self-published *How To Build Your Own Underwater Camera Housing* in 1962. Readers could order special parts such as focus gears and through-the-housing



A "new-fangled" late-1950s flash camera system.

controls. Mart provided valuable information for what was then just a hobby. Then underwater photography took a serious turn.

In January 1964, the *NEW Skin Diver* hit the newsstands with cover blurbs that reflected the explosion of color U/W photography—the July issue extolled Oceanicolor, August, Spectacolor, and these were followed by Hydrocolor, Aquacolor, Terrificolor, Exoticolor, Bonanzacolor and my personal favorite, Pelagicolor! During the early sixties both the front and backside of the cover had color underwater images.

It was the amphibious Calypso camera that awakened a sleeping giant. Divers who were skeptical about placing their expensive topside cameras inside “new-fangled,” plastic housings were jolted by the advent of an amphibious camera. When the Calypso and Nikon flashguns (flashbulb units) became available, I was in heaven. And, as photographers started utilizing the units, the quality of the U/W photography on the pages of *Skin Diver* set new standards with each new issue. Because the flash socket was exposed to sea water, the flashgun used a 22 1/2-volt battery to ignite the bulb. However, using flashbulbs underwater wasn’t quick or easy.

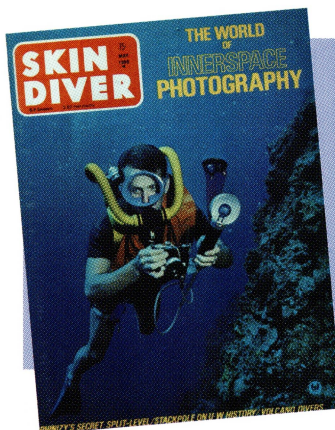
Long before wetsuits became vogue, underwater photographers practiced their craft in the fashionable clothing of the times. Circa 1975.



Photo/Jim Church

First, you had to carry the equivalent of three dozen eggs if you wanted to shoot a 36-exposure roll of film. Then, before taking a flash picture you had to remove a flashbulb from a bag or neoprene strip, and place it in the flashgun’s flash socket. This wasn’t easy if you wore thick gloves in cold water.

Hoping the flashbulb would fire, you triggered the camera shutter then pressed a release lever on the flash socket and removed the bulb. I learned to wear gloves because the bulbs sometimes imploded and the exposed edges were sharp.



The cover blurb for the May 1969 issue spoke exclusively to U/W photographers—from the Jack McKenney cover image to articles on a “secret” split level camera and an U/W photography “history” piece on Peter Stackpole.

The only thing left was wondering what to do with the used flashbulb.

Some carried a second bag for used bulbs; others simply discarded them. “What the heck,” they thought, “a few flashbulbs won’t hurt this large ocean.” Whenever a group of photographers dove in the same area, the surface above them would soon be littered with flashbulbs.

I believe the era of flashbulbs peaked when Underwater Photographic Scientific Inventions, Inc. introduced the UPSI. The UPSI was a simple handle with a flash socket on top and a connector cord to attach it to the camera. Two AAA batteries inside the handle provided power. Mounting a flashcube that was only about one-inch square to the top of the handle allowed you to take four flash photos by simply rotating the cube. It was breathtaking—absolutely breathtaking.

Ike Brigham founded Ikelite in 1963 and began producing camera housings in 1964 and 1965, and housings for some topside flash units in 1967 and 1968. To this day, Ikelite continues to be a major producer of underwater housings for cameras, strobes or whatever. (We used to have a standard joke about Ikelite: Ike would house your mother-in-law if you could pay the bill.)

The Art of Underwater Photography, by Walter A. Starck and Paul Brundza, was published in 1966 by Amphoto. This book was probably the greatest single influence on my future articles, books and career. When I finally located Walter A. Starck in Australia in 1999, I mailed my dog-eared, underlined and tat-

Called the “Hippie Four,” this groovy housed instamatic camera came with a vivitar flash and sold for \$139, plus \$2 shipping. Circa late 1960s-early 1970s.



tered copy to him for his autograph. You will never see this treasured text on e-bay.

Pioneer Bob Hollis had a dive shop called the Anchor Shack and introduced the "HydroStrobe," in 1968. It was a metal housing for the Strobonar 600 series electronic flash units (aka "potato masher" because of its shape). About 6,000 HydroStrobes were sold—an impressive number for those early years. While housings for topside strobes signaled the end of the flashbulb era, Subsea Products, Inc., helped drive the final nail at the end of 1969, with their Subsea Mark 150 submersible strobe. Powered by a 510-volt battery, the Mark 150 had three power settings and a built-in slave sensor. It was awesome.

Hot on the tail of this, in the May 1969 issue, was a series of articles on the World of Innerspace Photography, which included the techniques and equipment need for producing an over/under photograph by Coles Phinizy. *Skin Diver* published Coles then unique photos (of a hot scuba babe hanging onto the bow of a red panga, among others), plus the construction and design of Coles' camera.

The moviemaking world got a big boost during the freespirted sixties with the groundbreaking movie, *Thunderball*. The January 1966 *Skin Diver* featured Sean Connery on the cover and in the magazine his



An Ikelite U/W housing for a Polaroid camera. Circa 1975.

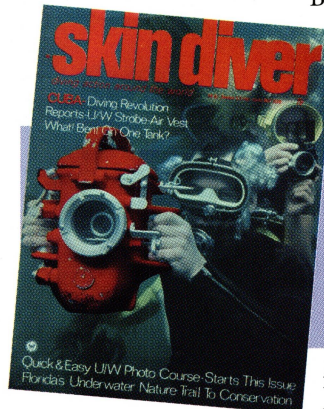


After using the flashbulb, it was usually discarded. If several U/W photographers were in the area the surface soon became littered with spent bulbs.

Photo/LeRoy French

bevy of Bond girls both above and below in the clear waters of the Bahamas in full color. Fifty percent of the movie was shot underwater.

For the diver without a Hollywood budget, Bob Hollis developed a housing



The May 1970 cover by J. Barry Herron was captioned... "Barry's cover epitomizes the mass migration of cameras into the depths."

for an 8mm camera at his Anchor Shack, and full of moviemaking inspiration, I

went out and bought one.

THE 1970s: THE EXPERIMENTAL YEARS

Now that divers and manufacturers realized that underwater photography was here to stay, everyone began experimenting to develop new products and techniques for the "mass market." The only scuba magazine during the mass market switch was *Skin Diver* and after reading articles and seeing the photo possibilities everyday divers began to show up at resorts armed with a cameras of all description. Paul Tzimoulis, then publisher and editor, opened the eyes and imaginations of readers with cover shots and articles on exotic locales from around the globe.

My then wife, Cathy, and I conducted countless experiments for our



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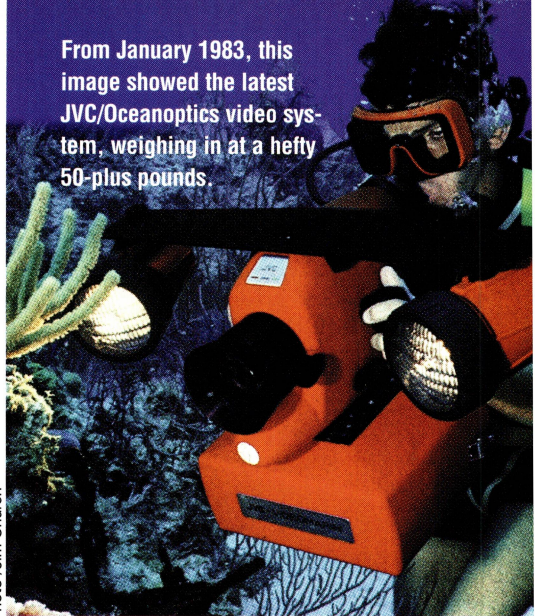


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From January 1983, this image showed the latest JVC/Oceanoptics video system, weighing in at a hefty 50-plus pounds.

Photo /Jim Church

monthly *Skin Diver* how-to articles. We mounted strobes on an underwater tripod and photographed the beam patterns on a plywood chart marked with the degrees of coverage, sealed a resolution chart in plastic and used a copy stand to photograph the chart with all of the available close-up lenses for a Nikonos (the choice of professionals during this period)—everything was submerged in a pool and we did countless underwater exposure tests with both flashmeters and a cord with knots at each apparent foot. We also measured strobe-to-subject distances with a ruler for extension tube exposures. These experiments led to the Secret Exposure Chart, which I still publish and use today.

We experimented with color panels, with a slave strobe behind the panel, to create colored backgrounds. We taped color filters over flash reflectors and placed a Nikonos III on a tripod, held the shutter release open, on "B" with a small c-clamp, and then flashed a strobe in various locations in the picture area.

Each of the above experiments ended up as articles and even a cover in *Skin Diver*, which was expanding its role as the leader for all things having to do with U/W photography.

Explosions in accessories and photo-related equipment began to take some serious space on the pages of *Skin Diver*, and four-color spreads, reflecting the growing skills of the photographers of the time, enthralled the magazines readers.

Bob Hollis founded Oceanic, Inc, and continued developing products created at his Anchor Shack. One highly successful product was the metal Hydro-35 housing for Nikon and Canon cameras. About 3,500 were

sold, and I'm sure some are still in use today. Affectionately dubbed "Blue Box," by many photographers, the Hydro-35 became Cathy's favorite underwater tool. When Oceanic produced the Oceanic 2001 submersible strobe, Cathy's Blue Box became a complete set.

In Japan in 1972 and in the U.S. in 1974, Sea&Sea introduced the first submersible strobe, the "Yellow Sub." Between 1975 and 1976 Sea&Sea introduced housings for Bronica 6x6 cameras, a video camera housing and several accessory lenses for Nikonos Cameras. Ikelite continued to develop new camera and strobe housings and introduced their first submersible Substrobes in the mid seventies. The Substrobes have been evolving to this day.

Paul Humann started a revolutionary trend in the dive travel business when he introduced and captained the Caribbean's first live-aboard dive boat, the Cayman Diver. She had an onboard compressor, a large dive deck and, most impressive, an U/W camera table. As an early photographer/guest, I thought the *Cayman Diver* was a floating Eden.

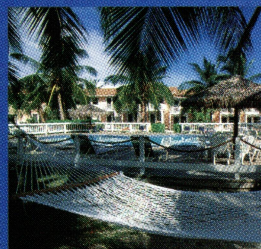
Underwater fashion was becoming more important. Geri Murphy wrote an article, "Underwater Fashions—How to Dress for the Part," for the May 1979 issue of *Skin Diver*.

Underwater moviemaking was on the rise as well. *Skin Diver* featured articles on the behind the scenes of such classics as *The Deep*, whose heroine, Jacqueline Bisset, was featured on the June 1977 cover. Famous *Skin Diver* Alumni, Stan Waterman, Geri Murphy, Al Giddings and others worked on the film as photographers/cinematographers and script supervisors.

THE 1980s: THE EXPANDING YEARS

Scuba diving grew dramatically as a sport during the 1980s. *Skin Diver's* pages swelled with photos and articles of our dramatically shrinking world. The experimental 1970s had led to new and better diving equipment, better training programs and more consumer-friendly underwater photography systems. *Skin Diver* readers were invited to join the parade via numerous articles on underwater photography seminars at resorts and on live-aboards, which, with the *Cayman Aggressor* in 1984, began offering camera rental and on-

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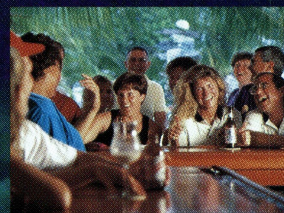


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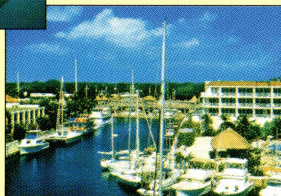


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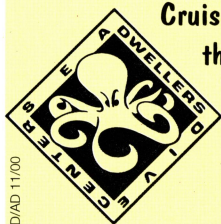
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board film processing. Also, concurrent with the expansion of live-aboards, new dedicated dive resorts were appearing almost monthly. The February 1980 issue heralded the "new concept" of a resort-based underwater photo center (with photo pro on hand for advice and tips) on San Salvador Island, Bahamas. After the story of the first photo center broke, the idea, of course, exploded.

For me, the mid eighties were special. One of my photo articles had appeared in every issue of *Skin Diver* for 19 years and 11 months. But these were only a part of the magazine's support of underwater photography as many authors were featured. Geri Murphy's work, for example, found its way to the covers and pages of *Skin Diver* time and time again. In addition, Paul Tzimoulis' many articles and images in *Skin Diver* set new standards for underwater photography.

The May 1980 issue announced itself as a "special photo issue," featuring the decade's newest products and cutting edge photo techniques.

In 1981, Sea&Sea introduced the world's first amphibious 110 camera, the Pocket Marine 110, and the company sold more than 100,000 units worldwide. In 1982, Sea&Sea and Sony developed the Marine Pack for the Sony Handi-Cam video camera. In 1983, Sea&Sea introduced the amphibious Motor Marine 35SE, the first camera to allow you to change lenses underwater.

Ikelite expanded its line by offering the Ikelite Trimcase housings for several models of 110 cameras.

Video systems hadn't quite caught up with the shrinking world of U/W cameras. My video housing with lights and battery pack topped out at nearly 60 pounds above the water. Baggage handlers were never happy to see me.

THE 1990s: THE DIVERSE YEARS

Scuba diving continued to expand into an upscale sport. The new breed of divers were becoming more diverse, sophisticated and demanding. They wanted a wider variety of topside and underwater experiences during their vacations, including easier access to underwater photography. Within the halls of *Skin Diver*, digital technology began to emerge as a method of receiving and publishing 35mm photographs. CDs, JPEG e-mail

attachments and Zip disks gradually became a preferred method of submission for many of the world's top U/W photographers and many more of the rising young stars.

Aquatica, Amphibico, Light & Motion and Sea&Sea became large companies.

Mini digital video revolutionized underwater videography in the late 1990s. Total in-air weight fell from the 80's weight of 60 pounds to just a few pounds. And the resolution quality changes so quickly it's frightening.

Having reviewed the last fifty years of underwater photography, I now realize the magnitude of *Skin Diver's* contributions to the development of underwater photography. *Skin Diver's* more than 650 articles about the tools and techniques of underwater photography, plus the hundreds of underwater photographs on covers and in other articles have influenced thousands of divers worldwide. I am extremely proud to be a part of this *Skin Diver* legacy.

2001 AND BEYOND: THE NEW FRONTIER

The new frontier begins with divers who never viewed the classic T.V. series *Sea Hunt*; divers who have access to equipment and dive opportunities that the old-timers could never have imagined, and divers who surf the Internet as well as the sea. The days of writing for a brochure and waiting for a reply are over. Complete descriptions of underwater photo equipment, live-aboards, resorts, dive equipment and reservations are just a few key

The July 2000 oversized photo annual has been heralded as the most prestigious collection of underwater photographs ever published.

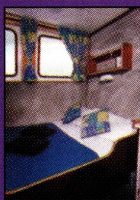


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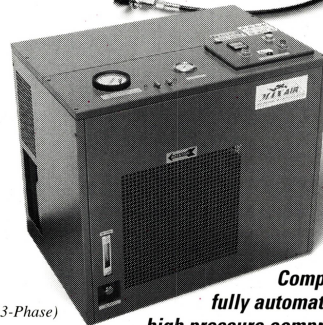
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Photo/Al Hornsby

Cathy Church shows Jean-Michel Cousteau and others the wide variety of U/W cameras, strobes and housings available to the modern photographer.

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optical link. Plastic shutter releases, command dials, etc. (with optical sensors reading their positions) or membrane switches could be used. Rinse tanks will be a thing of the past as the only part that needs to be kept



A housed digital camera—with image of Spanish Shawl—represents the technology of tomorrow. Below: Digital image of a goby.



Photo/Ty Sawyer

clean will be the front lens element. Pressure-resistant housings may disappear if the circuit board is water-proofed with epoxy and a thin wafer of glass over the actual image sensor.” —Chris Green

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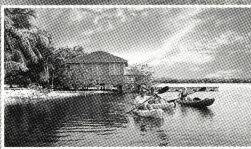
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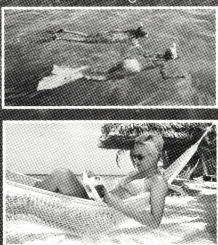
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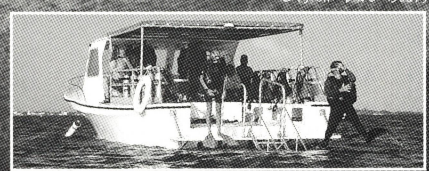
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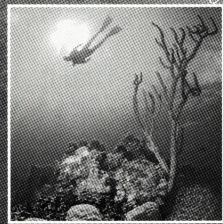


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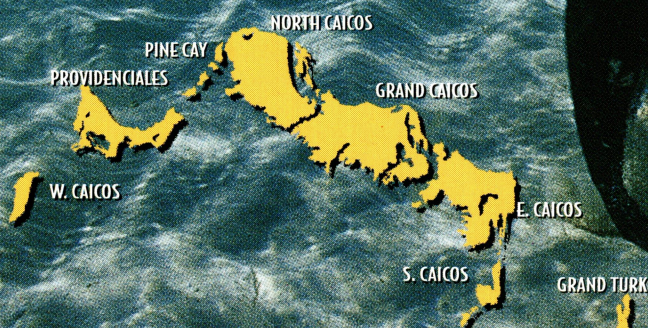
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source.” —Kirk Kreutzig.

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A FINAL THOUGHT

Changes in underwater photography occur faster with each passing year. What we’ve seen in the past 50 years is nothing to what we’ll see in the next 50 years. Yesterday’s science fiction is today’s reality. When Louis Boutan took the first underwater photograph, circa 1893, with an exposure time of about 30 minutes, could he have possibly imagined the tools and techniques of today?



Camera table on modern liveaboard.

Photo/Jim Church

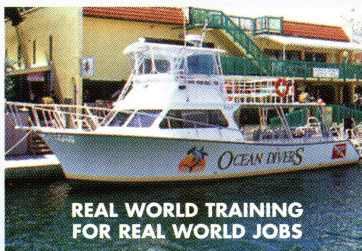
A note from the author: When I was asked to write this article, I was both thrilled and frightened. The thrill was this golden opportunity to relive and savor the past and try to look into the future. The fright was realizing that I couldn’t possibly include everyone’s important contributions. To those deserving persons and companies who weren’t included in this article, please accept my sincerest apologies.

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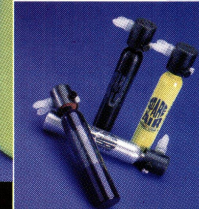
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becoming one with the **SEA**

by nick icorn

TWO CHARACTERISTICS OF BOTH MODERN DIVERS and their hearty predecessors are a passion for the water and a legacy of equipment innovation. While most early divers were hunters, today many don't even own a spear. But over the years, Skin Diver has featured a wealth of gear that has evolved to make diving safer and far more enjoyable for the sport's ever-widening demographic. It has been a long, if not sometimes strange, journey.

Photo/SDM Archives



Navy divers dressed smartly in their drysuits, dual tanks and double-hose regs, March 1955.



RETRO



This almost ghostly image from the '50s is simply labeled: "Ye Olde Days of the Dry Suits."
Below: A complete set of gear from 1958.

SPECTIVE OF EQUIPMENT



The Basics

Masks and fins were a major breakthrough for early divers, and the first gear to be produced on a large scale. One of the first widely used masks was developed in 1946 by the Sea-Net Mfg. company on Terminal Island, California. Designed by Larry Romano, it had the distinction of being purchased by the famous underwater photographer Hans Haas for an early expedition. But one of the landmark dates in fin design is 1938, when Owen Churchill, an Olympic yachtsman from Los Angeles, estab-



lished Churchill Swim Fins. He obtained patent rights dating from 1927 from Louis De Corlieu of France and designed his fins in the shape of a fish tail. By 1954 he had produced some 200,000 pairs. This was the first U.S. fin, and it was made from a green, floating type rubber. California body surfers still use Churchill's fin today.

Another major producer of early fins was Arthur (Bud) Brown of the Spearfisherman Company of Huntington Beach, California. His fins were called Duckfeet and Giant Duckfeet. He later developed the Wide View Mask with a large purge valve mounted on the front. The sealing edge was a foam rubber strip. Brown's mask is still considered one of the best ever produced. The Duckfeet and Wide View Mask were well known to early readers of *Skin Diver* and later distributed by a newer company, Swimaster of Los Angeles, which in turn was absorbed by Voit Rubber Company. The line was christened the Swimaster line.

The Swimaster masks and fins were typical of the black-rubber goods available to divers through most of the 1950s and '60s. It wouldn't be until 1979 that silicone skirted masks became popular. "Hypoallergenic"

was the watchword for selling these softer, gentler-on-the-skin masks. Silicone is still the material of choice, although the trend in recent years has been "low volume" mask designs.

The next revolution in fin technology began in 1964, when Scubapro introduced the Jetfin. It was an open-heel, adjustable-strap design that incorporated turbulence-reducing vents at the base of the blade. Many manufacturers followed suit. By the January 1973 issue of *Skin Diver*, a review of adjustable strap fins featured nine different models, four of which had vents.

The next great step in fin design came from the creative forces at Mares. *Skin Diver* readers got their first look at the new Plana in 1979. It was constructed of a clear Tecralene thermoplastic. It was lightweight, about half the weight of traditional fins, and the full foot pocket was extremely soft and flexible. The Plana quickly became popular with traveling divers and its pleasing aesthetics a favorite of many photographers.

Since the Plana, Mares and other manufacturers continued to evolve their fin designs by taking advantage of ever-improving materials. The next leap in design came only a few years ago with the advent of split-fin. Two versions of split fins were introduced in the '90s, Foil Force by Force Fin and the Bio Fin by Apollo. The Bio Fin was well received by divers and since its introduction both Scubapro and Atomic have introduced similar designs.

A Second Skin

In 1950, the first use of thermal protection appeared and consisted primarily of wool sweaters and long-john underwear. It wasn't until Bill Barada, founder of the California Council of Diving Clubs, author and writer for *Skin Diver* magazine, developed one of the first drysuits that divers had any real protection against the cold. Offered through his company, Bel-Aqua Water Sports, it was available in front entry and waist entry models with a hood and attached boots.

Drysuits, in fact, were the norm for divers until 1953, when EDCO (Educational Diving Equipment Company) introduced foam rubber suits. The original material was of a skin, two-sided, which offered good thermal protection but required talc powder or corn starch as a lubricant for donning, and it could easily be torn. It was during this same time that both Body Glove and O'Neill came on the scene and pioneered the wetsuit industry.

In 1960, the first nylon-lined suit appeared. Offered by U.S. Divers, it was more of a cheese-cloth-type material glued to the inside of foam rubber. Shortly after, two-sided nylon material entered the market. This allowed blind-stitching on both sides of the material along with gluing for a very durable suit. In 1968, hi-stretch imported foam (neoprene) appeared on the market, eliminating zippers in the arms and legs and allowing for an even better fit.

Today, manufacturers are incorporating special linings to increase heat retention and ease donning. Henderson's Gold Core series, and titanium lined suits by several manufacturers, have continued to push the "neoprene envelope."

As for drysuits, little changed until about 1965 when Poseidon helped

RETROSPECTIVE OF EQUIP



Photos/SDM Archives

Above: L. Sillner sports a chic-looking oxygen rebreather circa 1950. Left: Harry Pederson, a leading authority on the undersea world in the late 1950s, uses a full-face hooka set-up complete with garden hose spigots to adjust airflow. His blue jean shirt provided the thermal protection of the day. Below: In a photo captioned, "Well-equipped," Gail Cooper models the latest Bendix "Watercom" U/W communication device. The device amplified the voice so it could be heard by divers "within 100 yards without the aid of special receivers." Circa early 1960s.

IN THE EARLY FIFTIES, the true diving experience of exploring inner space while breathing underwater became available to the general public for the first time.



MENT

usher in the era of modern drysuits with the introduced of the Unisuit. It featured a waterproof zipper, an air inlet valve and an exhaust valve—all major innovations. Drysuit makers shifted to the popular neoprene from the old dipped natural rubber of the early days. Ten years later, Viking would spearhead a resurgence in non-neoprene suits with its vulcanized rubber designs, although similar materials had been offered by Draeger and other manufacturers. Present day drysuits are available in both vulcanized rubber and neoprene, in addition to thin laminated materials. Innovations in materials, suit features and fit continue to be driven by such companies as DUI, Mobby's, White's and others.

Breathe Deep

In the early 1950s, the diving experience of exploring inner space while



Connecticut divers from the '70s discuss the importance of the "Diver's Flag."

Photo/Paul Tzimoulis

breathing underwater became available to the general public for the first time.

To this we are indebted to Jacques-Yves Cousteau and Emile Gagnan, who in 1943 developed a demand breathing regulator for underwater use. Cousteau's initial patent was based on the two-hose inhalation/exhalation concept and the exhaust valve design. The diaphragm-operated regulator had been available since 1812 in the commercial gas field.

In 1946, Cousteau and Gagnan established their first company, La Spirotechnique, and offered the Scaphandre Autonome (automatic diving apparatus).

Many early readers of *Skin Diver* magazine used the French regulator combined with surplus twin 38 cubic ft. cylinders.

The first American-produced regulator was the Divair, marketed by Healthways in 1954. In 1955, the Davidson Corporation of Evanston, IL, introduced its double hose, diaphragm regulator and shortened its name to Dacor.

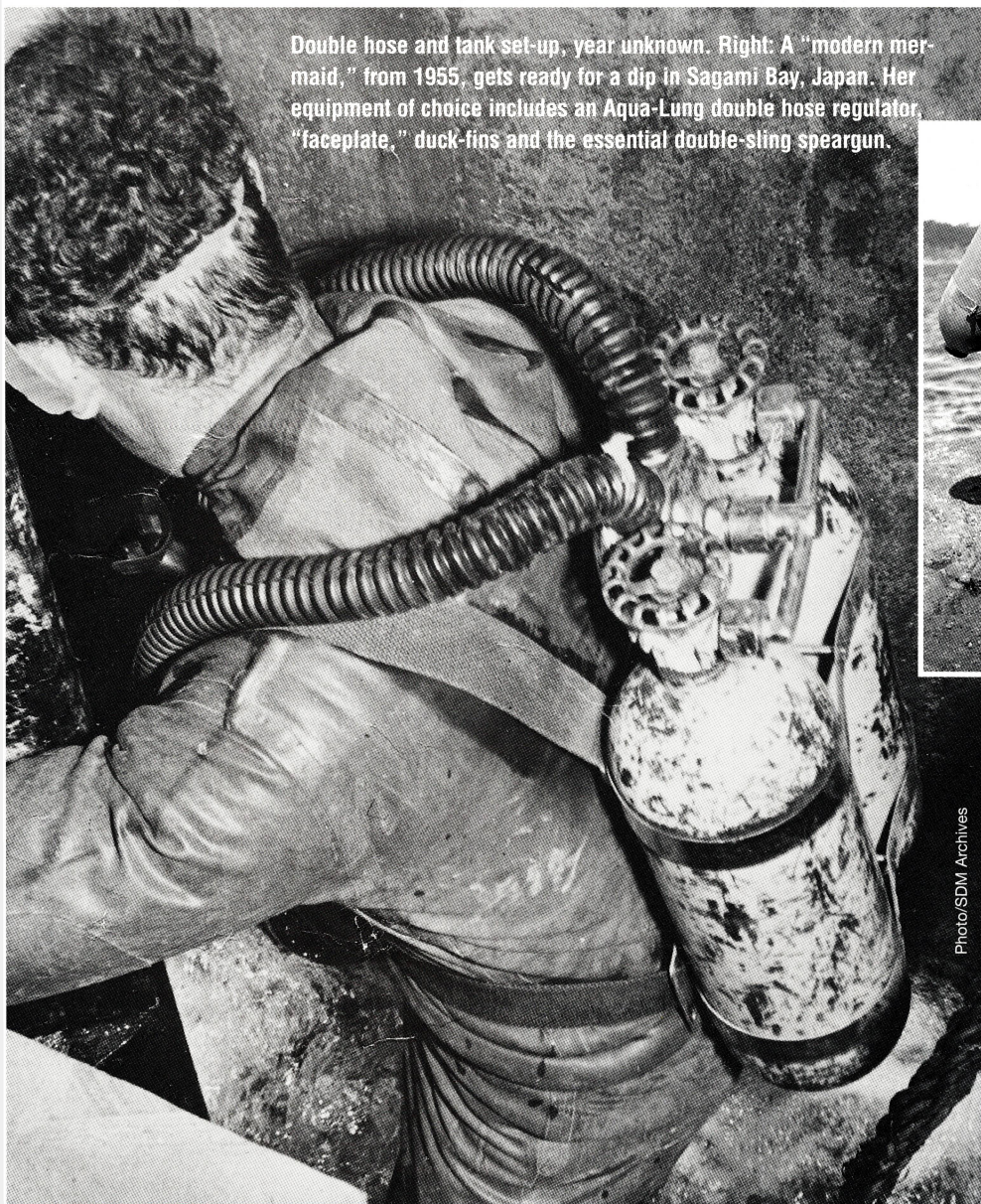
The advent of the first single hose regulators came in 1956; the Little Rose Pro from Rose Aviation Company, which sold for \$22.50.

In 1958 a new company entered the field, Sports-ways, with a series of single hose, waterlung regulators designed by Sam Lecocq. They were lightweight, innovative and reasonably priced. Combined with a submersible pressure gauge and the first O-ring-sealed tank valve, they dominated the field for some time.

During this same period, Voit introduced four different two-hose models, all made by U.S. Divers, with different case covers copied from the French Minsral regulator. These were the regulators made famous for being cut in nearly every episode of *Sea Hunt*. Among the more popular single-hose regulators were the Dacor Pacer and the U.S. Divers Conshelf models.

But, it wasn't until 1970, when Scubapro introduced the G-250 adjustable second stage, that regulator performance took a giant leap forward. The adjustable second stage improved performance greatly and was the precursor to modern regulators that offer venturi

Double hose and tank set-up, year unknown. Right: A "modern mermaid," from 1955, gets ready for a dip in Sagami Bay, Japan. Her equipment of choice includes an Aqua-Lung double hose regulator, "faceplate," duck-fins and the essential double-sling speargun.



Photo/Official U.S. Navy Photography

Photo/SDM Archives

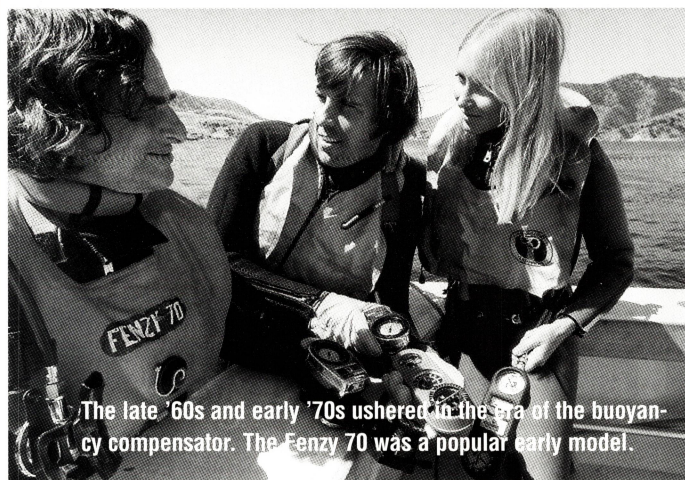
RETRO

assists and automatic depth-compensating adjustments. Also, the use of Titanium, ceramic coatings and high-grade plastics have helped streamline and lighten both first and second stages.

Staying Neutral

In 1958, several rubber safety vests were introduced by U.S. Divers, Nemrod and Healthways. These were primarily emergency CO₂ vests for surface flotation. Later, in 1963, the first of the buoyancy compensators appeared. The most notable being manufactured by Fenzy of France and Nemrod of Spain. Most of these were designed with a small air cylinder that provided emergency air and ascent capabilities. Almost all were of the yoke (horse-collar) type.

Surprisingly, the first jacket-type BC was designed by Frederic Dumas, Cousteau's diving partner, in 1957. It contained a very small 3,000 psi



The late '60s and early '70s ushered in the era of the buoyancy compensator. The Fenzy 70 was a popular early model.

Photo/Jack McKenney

cylinder, an adjustable relief valve built into the inflator mouthpiece and a holder for a snorkel. It had under-arm buoyancy identical to current BC jackets and was made from hypalon fabric, the same used in good grade inflatable boats. It was way ahead of its time but never became commercially available.

The first of the back-mounted buoyancy units was created in 1968, the Saf-T-Ballast system. Composed of two plastic cylinders mounted on each side of the tank, the hose was sandwiched in between valve and regulator, ending in a needle valve with which to control the air supply to the cylinders. This was the first power inflator. A vent on the bottom of the cylinders allowed the diver to dump air as needed.

In 1972, the Attitude Pack (ATPAK), a back buoyancy unit that featured a nylon bag and bladder and built-in weight system, entered the scene. It was a forerunner of many of the current styles available today.

In 1977, Scubapro invented jacket-style BCs and launched its Stabilizing Jacket, still a popular style among today's divers.

The next revolution in BC design didn't come until 1984, when SeaQuest introduced the ADV (a vest-style BC, providing better freedom of movement), which became so popular that less than a year later most other BC manufacturers began introducing similar concepts.

Later, SeaQuest incorporated integrated weights into the advanced design BC (called the Quick Draw, 1990). Most brands today incorpo-

rate some kind of weight-integrated design in their BCs.

With the growing influence of TEK diving during the late 1990s, higher lift capacity BCs, many with back-mounted air cells, have become the latest rage.

Tracking Bubbles

In 1959, *Skin Diver* readers got their first look at the SOS Decompression Meter. The SOS Decompression Meter (affectionately called the "bends-o-matic") was a mechanical device that simulated the process of nitrogen absorption in the body's tissues.

Sold in the U.S. by Scubapro and manufactured by the Italian firm, SOS Diving Equipment, Limited, this pneumatic device used a ceramic resistor set between two air chambers (one flexible, one constant) to simulate nitrogen absorption and off-gassing in the body. An indicator needle showed the depth to which a diver could safely ascend.

Despite its limited accuracy and questionable reputation, the SOS Meter remained popular through the late 1970s.

The mid-seventies saw attempts at incorporating electrical technology into what were then being called dive computers, but the result was expensive and fragile equipment. So, in 1975, Farallon's Decomputer was the next stage in the quest for a better mechanical device. It too was found to be unreliable, and divers kept calculating dive tables manually until the early 1980s.

The Orca EDGE, released in 1983, was the first successful dive computer. Orca's Electronic Dive Guide was the first modern dive computer. It utilized a microprocessor to calculate no-deco limits based on depth, time and a pre-programmed algorithm. In 1985, the Oceanic Datamaster incorporated air-integrated technology, and in 1991, nitrox computers became available. Finally, in 1993, Cochran and Uwatec debuted air-integrated, hoseless dive computers.

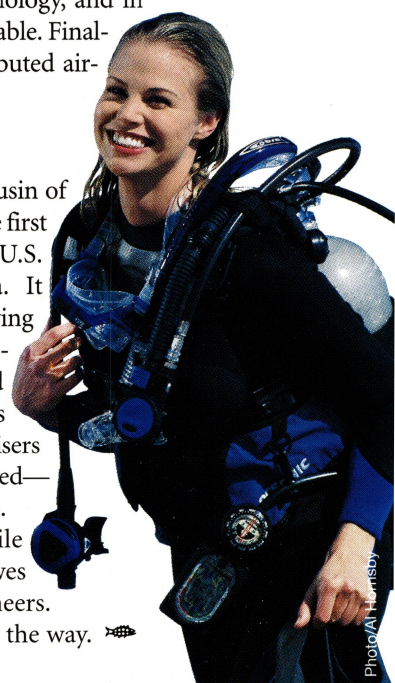
From Then to Now

In 1949, Rene Bussoz, a distant cousin of the Cousteau family, began one of the first dive shops, Rene Sports (later U.S. Divers), in Westwood, California. It became the first distributor of the diving apparatus, now called the "Aqualung." In 1950, Mel Fisher opened Fisher Sporting Goods (later Mel's Aqua Shop). Both were early advertisers in *Skin Diver*. From there it blossomed—east coast, west coast, all over the U.S.

Current equipment today, while better made and more durable, owes its development to these early pioneers. And *Skin Diver* has been with us all the way.



Above: The '80s brought colors and advances in dive computers.



Photo/M. Hensley

SPECTIVE OF EQUIPMENT

The well-dressed '90s diver has the advantage of an air-integrated computer, weight-integrated BC and lightweight regulators.



Ocean kayaking in beautiful turquoise and emerald-green waters.



Fishing the flats for bone, tarpon and permit.



Dive Belize's spectacular barrier reef.

CATCH THE ADVENTURE

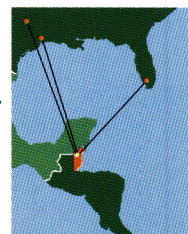


In a single day you can go from the longest living barrier reef in the western hemisphere to tropical forest and majestic 3,675 foot mountains. An adventurer's paradise, Belize is your peaceful, English-speaking neighbor on the Caribbean coast in Central America only 2 hours from the U.S. Where the people are as warm and friendly as the climate. Discover Belize...and let the adventures begin.

Contact the Belize Tourism Board at **1-800-624-0686**
or visit us at our website: www.travelbelize.org/marine

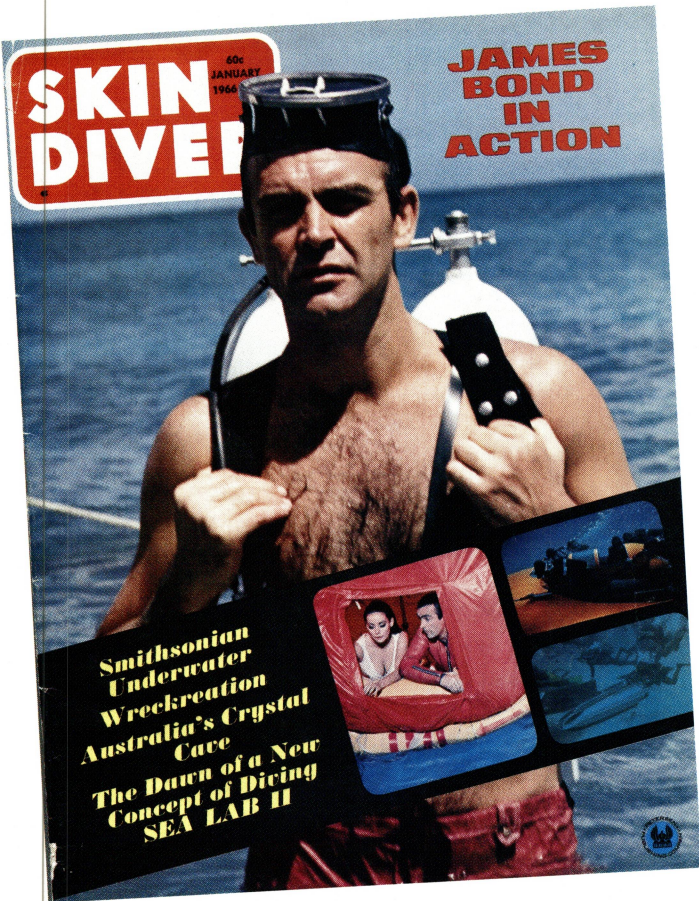


*Mother
Nature's
best kept
secret*



STARS

in our eyes

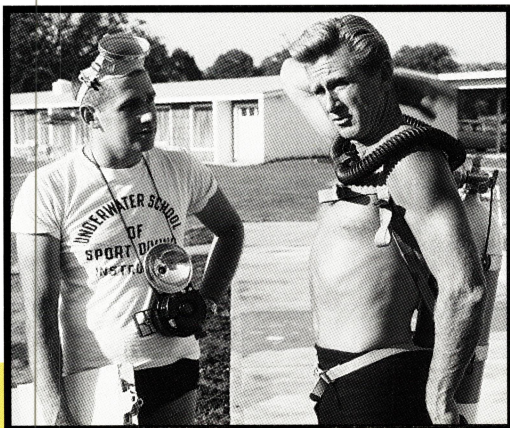


LOVE THEM OR SHUN THEM, CELEBRITIES are trend-setters, and it feels undeniably cool to discover they like diving as much as we do. Here's a look at some of the screen legends Skin Diver has caught blowing bubbles in decades past.

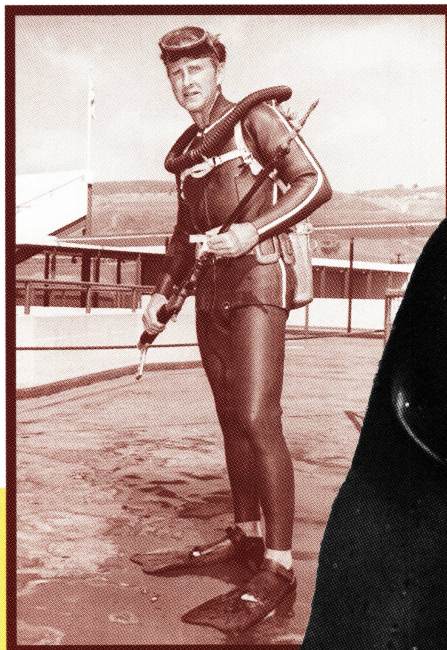


sean connery
during the making of the James Bond classic, "Thunderball" in 1966.

Lloyd bridges, the "unkillable" star of "Sea Hunt."



Photos/courtesy "Sea Hunt"



Photo/courtesy Warner Bros.



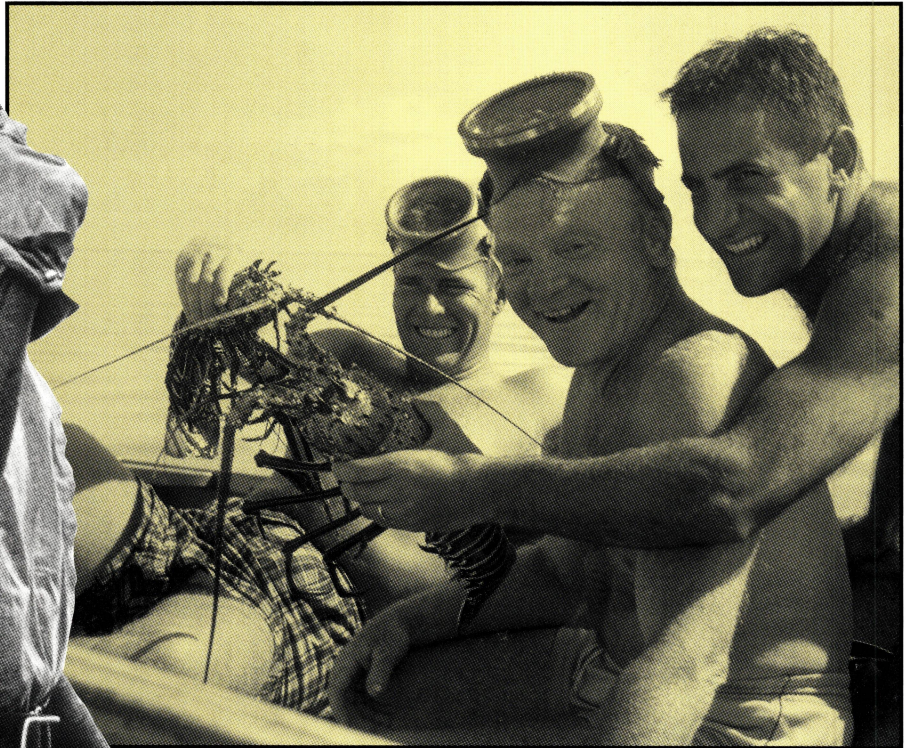
The 1959 "Up Periscope" from Warner Bros. featured TV and film star **james garner**.



Photo/SDM archives

buster crabbe aka: Flash Gordon.

elvis presley took the splash in 1969 while filming Paramount's "Easy Come, Easy Go."

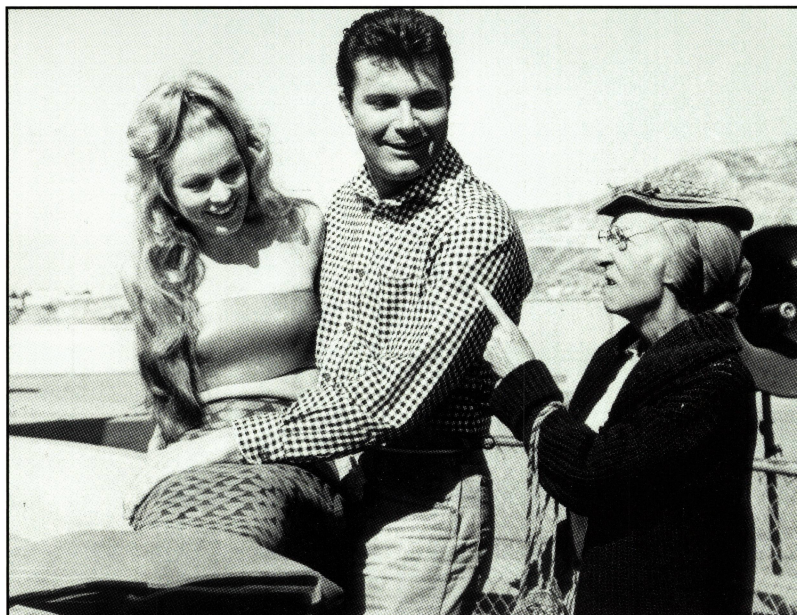


Photo/SDM archives

james cagney catching lobster, 1950s.

Photo/Hal Wallis and Joseph B. Hazen

Beverly Hillbillies' **jethro (max baer)** and
granny (irene ryan) in a scene with underwater
 film siren **zale parry** in 1965.

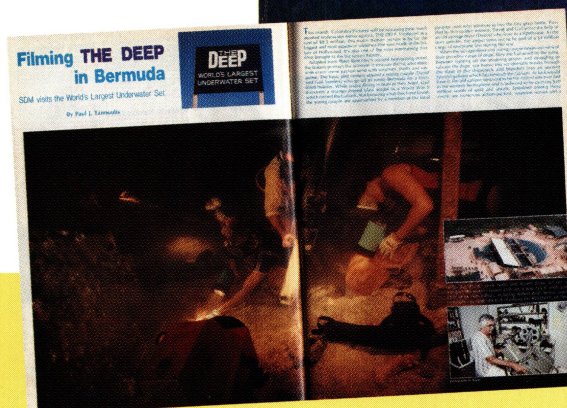


Photo/courtesy Zale Parry



Photos/Bruce Parker

gary cooper dives off Nassau,
 Bahamas, in the early 1960s.



jacqueline bisset
 graced the cover in 1977
 after making "The Deep."

alumni

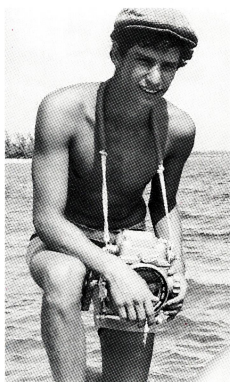
famous

by bonnie j. cardone

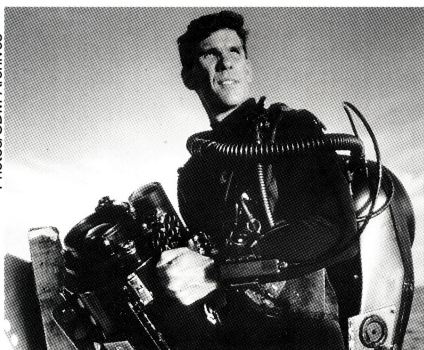
IN THE PAST HALF CENTURY ALMOST EVERYBODY

who is anybody in the diving world has written for Skin Diver. The magazine has served as both a forum and a springboard for many of the men and women who helped shape our sport.

The fame of some writers, however, transcended scuba, and they became world renown. These include David Doubilet, Hans Hass,



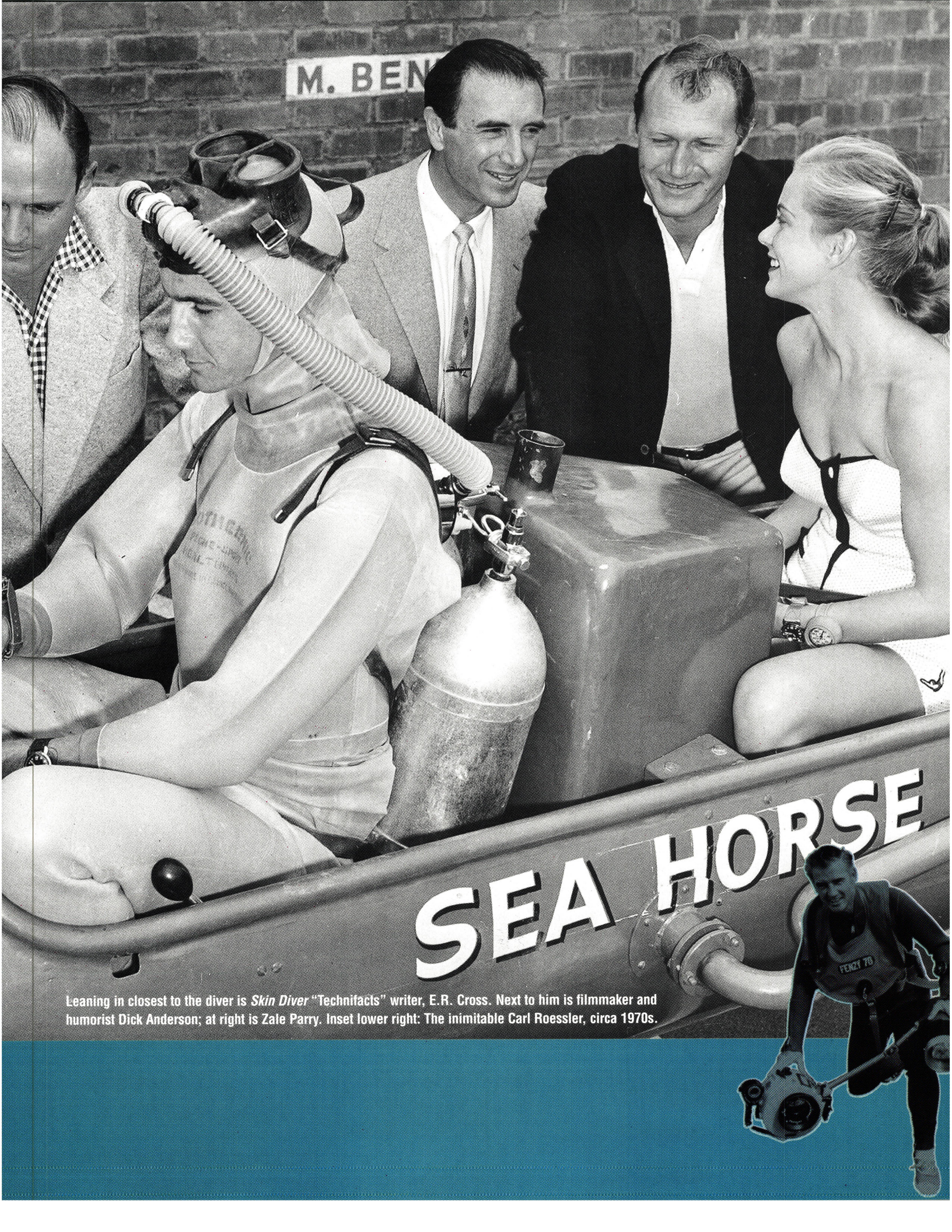
Howard Hall, Marty Snyderman, Chris Newbert, Stan Waterman, Flip Schulke, Chuck Nicklin, Al Giddings, Ernie Brooks, Jordan Klein, Jack McKenney, Ron and Valerie Taylor, Eugenie Clark, Jacques-Yves, Philippe and Jean-Michel Cousteau, Joe MacInnes, Carl Roessler and Andy Rechnitzer—to name just a few.



Top: David Doubilet, the world's most renowned U/W photographer, poses with his Rolleimarin in 1967. Above left: Howard Hall is well-known for his work in film, especially IMAX. Above right: Hans Hass, the original U/W photographer.

Photo by Dick Klein

L.A.
CALIF.



M. BEN

SEA HORSE

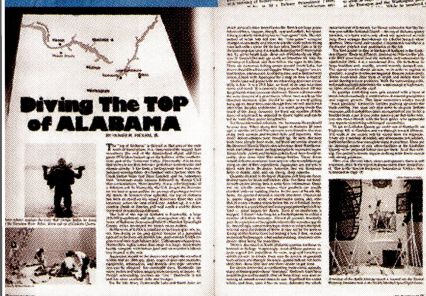
Leaning in closest to the diver is *Skin Diver* "Technifacts" writer, E.R. Cross. Next to him is filmmaker and humorist Dick Anderson; at right is Zale Parry. Inset lower right: The inimitable Carl Roessler, circa 1970s.



Jordan Klein and his photo assistant. Klein filmed the underwater sequences for *Thunderball*, among others.



Photos/SDM Archives



THE LONG SNORKEL

By Clare Boothe Luce

Some of those who authored *Skin Diver* articles, however, might surprise you—Clare Boothe Luce, for instance. She had a long and varied career that included being an editor at *Vanity Fair* and *Vogue*, writing three plays that became movies, serving as a member of Congress for four years and being awarded the Presidential Medal of Freedom. Luce's contribution to *Skin Diver* was a fictional piece, "The Long Snorkel," published in January 1962. Then there's electrical engineer Harold Edgerton, Ph.D., the MIT professor who invented flash photography. He wrote three articles: one appeared in the December 1963 *Skin Diver*, another in August 1964 and the last in June 1975. Mercury astronaut Scott Carpenter wrote about *Sea Lab II* in the October 1966 *Skin Diver*, four years after he orbited the earth three times in the *Aurora 7*.

Bruce Halstead, M.D., assistant surgeon of the U.S. Public Health Service, wrote several authoritative books on dangerous marine animals. He authored an article on man's mistreatment of the ocean in the March 1971 *Skin Diver*. Homer H. Hickam, Jr., a NASA engineer whose book, *Rocket Boys* became the 1999 hit movie *October Sky*, wrote an article on

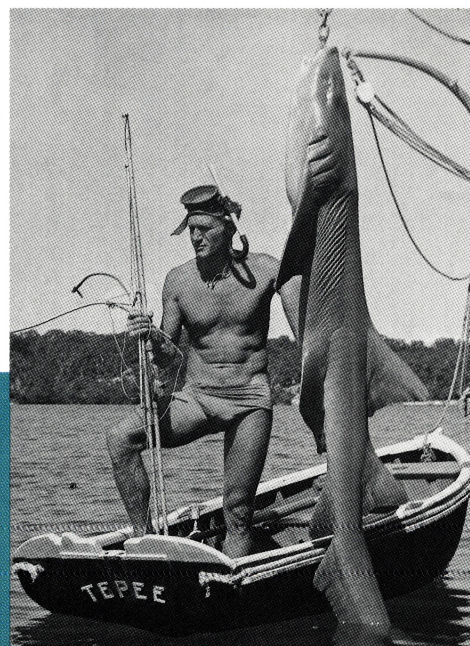
Alabama diving that appeared in May 1978. Other famous *Skin Diver* alumni include: Hans Hass, pioneering underwater filmmaker; Bev Morgan, co-founder of the world's first certification agency (La County) and founder of a commercial diving firm, among other accomplishments; Jordan Klein, an underwater filmmaker who also made spearguns and underwater camera housings; Rene Bussoz, owner of Rene's Sporting Goods, which became U.S. Divers (now Aqua Lung); Gustav

Dalla Valle, co-founder with Dick Bonin of Scubapro; and Dimitri Rebikoff, pioneering underwater photographer.

WORKING WITH THE FAMOUS

Editing other people's work is generally a thankless job. If you do it well, authors don't notice it.

Gustav Dalla Valle, co-founder of Scubapro, started off as a spearfisherman and dive instructor in Port au Prince, Haiti.



This isn't always possible, however. Long-time managing editor Connie Johnson received a kitchen knife from filmmaker and humorist Dick Anderson ("diving's Will Rogers") with the words, "For excellence in editing," carved into the handle. It was his way of objecting to the way she shortened his articles. Jack McKenney was a *Skin Diver* editor for seven years but had left to pursue his underwater filmmaking career full time before I joined the staff. Jack, universally revered and beloved, was a talented filmmaker and still photographer—and a very creative speller.

At one time, Jack was extremely unhappy (I do not recall why) with a particular segment of the dive industry. I knew if the article ran as he wrote it, his silver star would be forever tarnished. To prevent this, I eliminated a good portion of the article. Jack was incensed. He called then Publisher Paul Tzimoulis and demanded that any changes made in the future be approved by Jack himself. We went over his next article on the phone, line by line; a boring exercise that was not repeated. Jack forgave me after about a year, and we were good friends until his death in 1988. I always treasured the extraordinarily brief phone calls I got from him: "Bonnie? Jack here. How do you spell...?" When I told him he'd say "Thanks" and hang up.

However, long time "Technifacts" and "Crosstalk" author, E.R. Cross, was exceptionally easy to work with. He didn't consider him-



Jack, universally revered and beloved, was a talented filmmaker and still photographer—and a very creative speller.

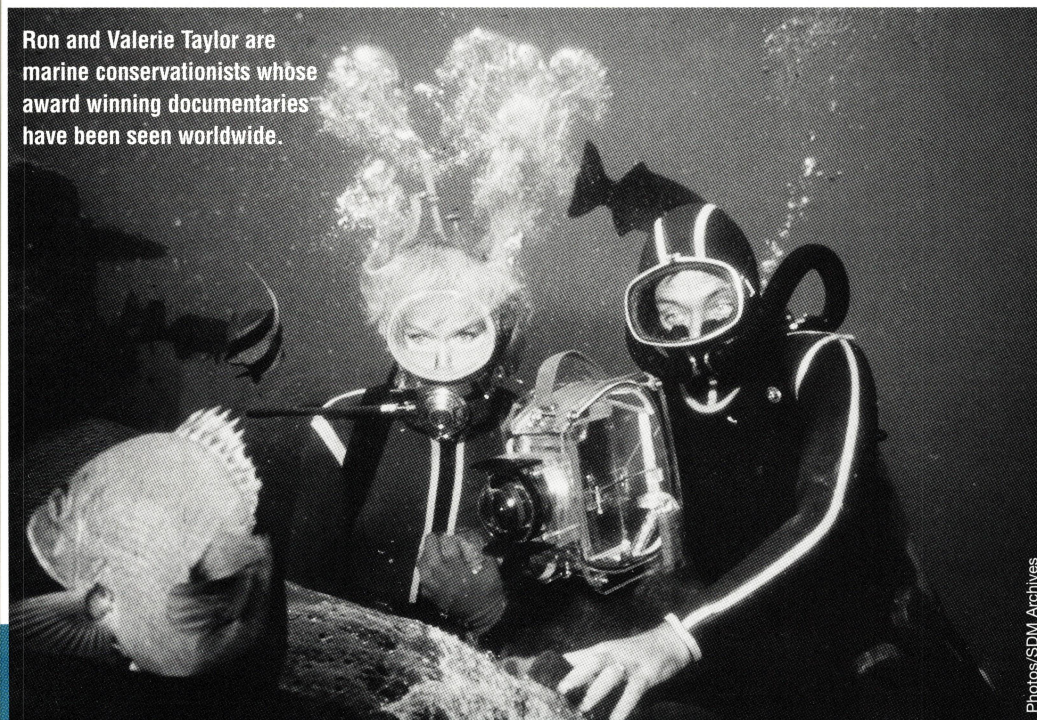
Onetime *Skin Diver* editor and later renowned filmmaker, Jack McKenney.

self the world's best writer, calling what the editorial staff did to his articles "The Magic Show."

IT'S A SMALL WORLD

More than one of *Skin Diver's* writers fell into a photojournalism career accidentally. Eric Hanauer was an associate professor of kinesiology of physical education and the diving safety officer at California

Ron and Valerie Taylor are marine conservationists whose award winning documentaries have been seen worldwide.



Photos/SDM Archives



Stan Waterman, shown filming in the Red Sea in 1980, is known as the poet laureate of the sea.

Chris [Newbert] never did write the article on Hawaiian sealife (he said he hated writing), but his work was noticed. Today he is one of the most highly regarded underwater photographers in the world...



Chris Newbert's exceptional photography speaks louder than his words. Below: Perhaps the most celebrated icon of the underwater world, and a *Skin Diver* contributor, Jacques Yves Cousteau.



Photo/SDM Archives

State University, Fullerton, when *Skin Diver* needed photos to illustrate an article on marine aquariums. I happened to mention that to my younger brother, Dan, and he suggested I call Eric, who had been his diving coach at a Chicago high school. Eric had moved to California, becoming a diver and underwater photographer.

After I called him, Eric sent in some photos, and the aquarium article was published in 1977. Although the payment—\$35—was quite a bit less than he expected, Eric was encouraged. Today, Eric works three months of the year at Cal State, spending the rest of the year as a freelance writer, contributing articles to several diving magazines. He has also authored several books.

Many photojournalists have perfected their writing and photography skills while working for *Skin Diver*, but the first photographs Christopher Newbert sent to the magazine in 1978 were stunning. He had had

only one photo published at that point. We loved his work and asked for an article to accompany the photos. While we waited, we used his fish portraits in a feature called "Fish of the Month," the magazine's photography showcase. Chris never did write the article on Hawaiian sealife (he said he hated writing), but his work was noticed. Today he is one of the most highly regarded underwater photographers in the world, author of two spectacular books, *Within a Rainbowed Sea* and *In a Sea of Dreams* (the latter with his wife, Birgitte Wilms).

THE WORKHORSES

The majority of *Skin Diver* contributors author a few articles or have a few photographs published, but the travel writers of the 1980s and 1990s—Stephen Frink, Bill Harrigan, Walt Stearns, Al Hornsby, Rick



Al Hornsby, *Skin Diver's* current group publisher and editor, contributed to the magazine for nearly 20 years while working as a V.P. at PADI. Prior to that he was a skinny spearfisher-punk in Guam.

have written articles for or had photographs published in *Skin Diver* in the past 589 issues that it is impossible to recognize all of them. (If I overlooked you, please forgive me.)

the true adventures of howard and marty

The year was 1980. It was the best of times and the worst of times (forgive me, Dickens!). It was the best of times because I loved my job; the worst of times because we were in the middle of dive gear roundups. They consumed two years of my life and resulted in 51 knives, 73 masks, 42 pairs of fins, 38 depth gauges, 43 regulators, 64 spearguns, 59 pairs of gloves, 83 snorkels, 61 BCs, 12 drysuits, 45 wetsuits, 29 gearbags, 78 watches, 39 dive lights and 19 submersible pressure gauges passing through my office. Twice.

They were also a baptism by fire for two new *Skin Diver* writers. Howard Hall was just beginning his underwater film career and had had one article published in *Skin Diver* when he was asked to write several of these 12-page nightmares. He recruited his buddy, Marty Snyderman, who had never had any articles published, to do some, too. For their labors they were paid the then princely sum of \$100 per page. It wasn't enough.

None of us had ever done anything like this before. It took two to three letters, followed by frantic phone calls, to get the gear in.

The authors had to photograph each piece of gear, compile a chart listing the features of each, then write an article on everything they knew and could find out about that particular item.

Howard and Marty had never done studio photography, so they enlisted Fred Fischer of Underwater Kinetics to help, and the products were shot in his garage.

Howard was assigned masks, fins, spearguns, drysuits and consoles; Marty got BCs, wetsuits, gear bags and gloves. George Cozens did dive lights, regulators, SPGs and watches. Various other writers did the rest. When it was all over, I had developed insomnia and, in an attempt to overcome it, downed every drop of liqueur in a large, five bottle gift set.

There were some notable glitches. All fins in those days were rubber; many arrived coated with a whitish "bloom." Howard shot all 42 fins, then had to wash and reshoot many of them because they looked so ugly in the photos. He claimed he got dishpan hands as a result, but years later I found out the fin washer was actually his girlfriend, Michele Binder (now his wife). The fins were too big for the sink, she said, so she washed them in the bathtub. Howard hung 64 spearguns from the ceiling so they could be photographed, a feat few, if any, have surpassed.

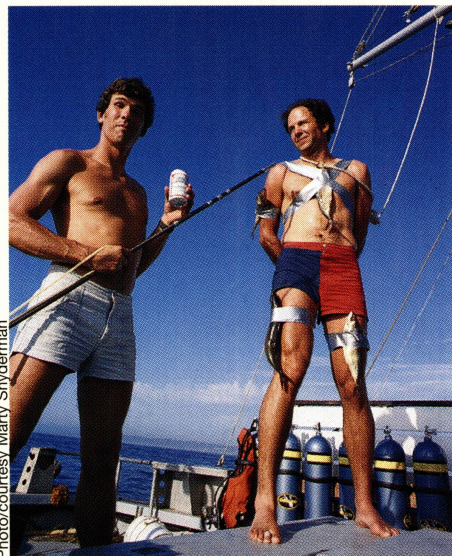
The masks were less trouble, but Michele's considerable modeling skills were apparent here. One of Howard's submissions for the opening page was a photograph of her wearing a mask full of water in which a goldfish frolicked. The art director chose the shot with no fish. Since there was no budget for models, we used friends, children and anyone else we could talk into posing. Howard convinced his brother to model drysuits (12, all told) under hot studio lights.

The wetsuit article was probably Marty's biggest challenge. He had to photograph 45 of them. Dan Walsh modeled 33; Marty photographed himself in 10, Marty's long suffering girlfriend put on and took off three. Various other people (including yours truly) modeled the others.

Marty's girlfriend, however, got stuck modeling all 59 pairs of gloves. I got the distinct impression it didn't improve their relationship.

Reflecting on his early experiences at *Skin Diver*, Marty recently told me: "What I really remember about all those equipment reviews is that I once wrote a 3,000 word article about dive gloves. That is roughly 10 to 12 double-spaced,

typewritten pages. (There were no computers then.) Try that some time. I did it and wasn't smart enough to change my phone number and move. I came back for more!"



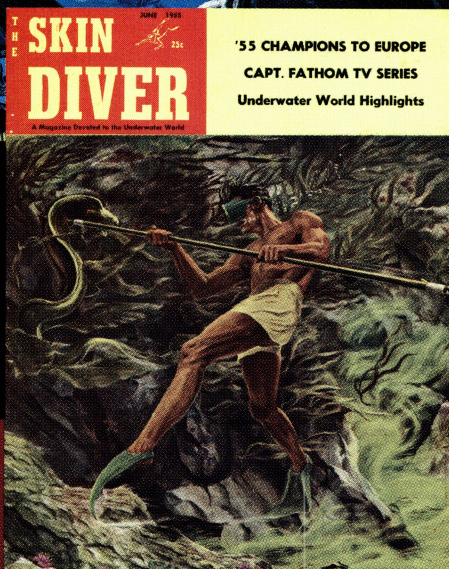
Marty Snyderman and Howard Hall driven to extremes during the dreaded gear days.

John Steel

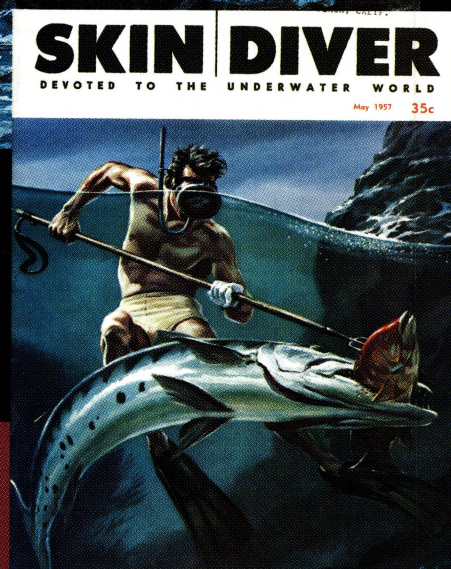
by
Eric Hanauer

EVEN IF THEY DON'T recognize the name, divers of the pioneer era will remember John Steel by his work: vivid paintings of underwater adventure that graced the covers of *Skin Diver* in the 1950s and 1960s.

When wide-angle underwater photography was just a pipe dream, Steel's eye, and brush and talent provided the window to a world of experience that readers could only imagine. Artist, writer, photographer, U.S. Marine veteran of three wars, Steel lived the life that his work so strikingly depicted.



John Steel's first *Skin Diver* cover, June 1955



An over/under from May 1959

Still a teen when World War II began, Steel enlisted in the Marines. It was an association that changed his life. To his dying day, Steel thought of himself first and foremost as a Marine, re-upping for Korea and again for Vietnam. Always reluctant to talk about his war experiences except to other veterans, Steel fought at Guadalcanal and Peleliu, two of the bloodiest engagements of WWII. On Peleliu he met combat artist Kerr Eby of *Life* magazine and showed him some sketches he had done, many of dead enemy soldiers. Eby suggested Steel send them to *Leatherneck*, the Marine Corps magazine. "They sent me about 70 pounds of art equipment and wanted me to do more sketches," he recalled. "But...I didn't want to carry all that stuff around, so I

left it somewhere in the Pacific."

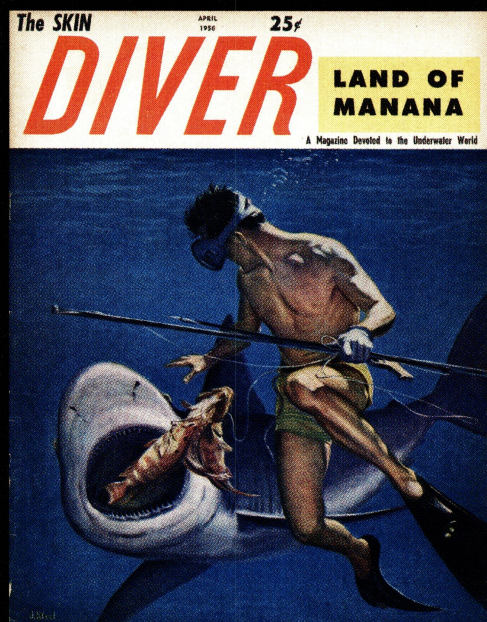
In 1946, Steel enrolled in Pasadena's Art Center on the GI Bill. An avid swimmer since his youth, he was immediately attracted to the ocean. He bought his first faceplate on the Redondo dock, along with a detachable-head spear. When he nailed a halibut on his first freedive, John realized this would be a good way to save on grocery bills for his wife and infant daughter. "What the government gave us to

live on wasn't quite enough, so in order to get food I started diving for abalone. I ate abalone every day for two years. I finally became allergic to them [and] started trading...for hamburgers.... "Today I can't be in the same room with an abalone."

"I never graduated from art school because of an argument with the president's girlfriend, who taught painting. She told me I wasn't capable and ought to open a hamburger stand," Steel said. Instead of heeding that advice, Steel went to work for North American Aviation as a technical illustrator. "I started back in night school, and worked at home every night, every weekend, every sick leave and every holiday, practicing drawing and painting. Freediving was my first love. So I did four underwater paintings of guys in eel grass, getting abs and lobsters and stuff. I took them over to Voit, and they bought all of them. Paid me a hundred bucks apiece, and I thought that was a lot of money."

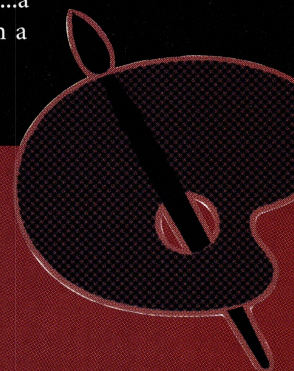
In the course of his diving activities, Steel met Chuck Blakeslee and Jim Auxier, who had recently started *Skin Diver*. Most illustrations in the magazine were topside photos of divers posing with fish they had killed. Underwater photography was still in its infancy and, without wide-angle lenses, nobody could capture the scope and the beauty of the underwater world. That would require a painter who combined diving experience with artistic skill. "My first *Skin Diver* cover was a picture that Ron Church had taken of Mel Fisher using a rebreather. I speared a Cabezon and put it on the edge of my drawing board. I painted the fish, and put Mel in the background." Actually, that painting was Steel's second cover. The first, *Skin Diver's* first full-color cover, was published a month earlier in June 1955. It was of a freediver spearing a moray eel.

Jim Auxier described the painting this way: "Undersea artist John Steel repeats his excellent June cover painting this month with another outstanding scene...a mechanized diver stalking a Cabezone (sic) in a kelp forest off Palos Verdes, California.



Despite working in his studio seven days a week, Steel still found time to enjoy the sport he depicted so brilliantly.

First Artist of the Underwater World



The master brushman has included in this one painting action, life, marine animals to scale and undersea beauty as only a diver can see it.”

Eventually Steel turned his attention from hunting to photography. “I speared some kind of bass,” Steel said. “Another fish that looked just like the one I speared kept following my tube with the stringer on it. It was probably the mate of the one I killed. That was when I decided to quit spearfishing.”

Like many early divers, Steel began using scuba reluctantly. “I made friends with Voit public affairs director Herb Larson after doing some freelance work for them. He gave me a tank and a regulator. I never took a course, but had read a lot of Jacques Cousteau stuff and knew enough to be careful. I...always preferred freediving. It’s not because I was chicken, but I like to do everything on a breath of air. I didn’t like wearing all that gear around me.”



John Steel at the office.

became fashionable. Garrett Airesearch hired him to paint calendars, and sent him to a different place each year, including Australia, Tahiti, even Vietnam.

In 1952 the Korean War broke out, and Steel re-enlisted in the Marines. His second wife, Carole recalls, “He didn’t like to talk about it, even to me, [but] opened up to other Marines. He saved an officer’s life in Korea and was awarded the Navy Cross, but wasn’t proud of it; [he] felt other buddies deserved it more.” A bayonet wound cost him a kidney, and earned him his second Purple Heart. The third came in Vietnam. In his mid-forties, he volunteered as a combat artist and logged five tours of duty.

When he returned from Nam, *Skin Diver* had changed editors and featured underwater photography on its covers. “Afterward, [art director] Art Smith tried to get me in there,” Steel recalled, “but...I was getting \$1,000 to \$1,500 from other outfits.” These included *Outdoor Life*, Random House Books, Disney, calendar companies and Revell models.

“When I turned 65 in 1981, I decided to paint what I wanted to paint, got out of illustration and into fine art. I love to paint animals and underwater scenes,” Steel said. “By the time I quit illustrating I had quite a file of photographs. So I painted from them: wolves and deer and other animals. I’ve gone to Alaska and shot pictures of Kodiak bears, [and I’ve] been to Africa and India shooting lion and tiger pictures.” His paintings



September, 1955

Skin Diver covers brought \$200 to \$300 each, which was big money in those days. A painting would begin with sketches, which he submitted for approval. Then he would get a friend to pose, shoot photos of him and combine that with back-grounds from underwater photos he had taken. Nearly all the human figures were posed on land, a surprising fact considering

the realistic action and perspective that typify Steel’s work of that era. At the time, he was also doing story boards for movies, designing scenery for Disneyland, and illustrating books and magazines.

Steel got into exotic dive travel in the early sixties, long before it

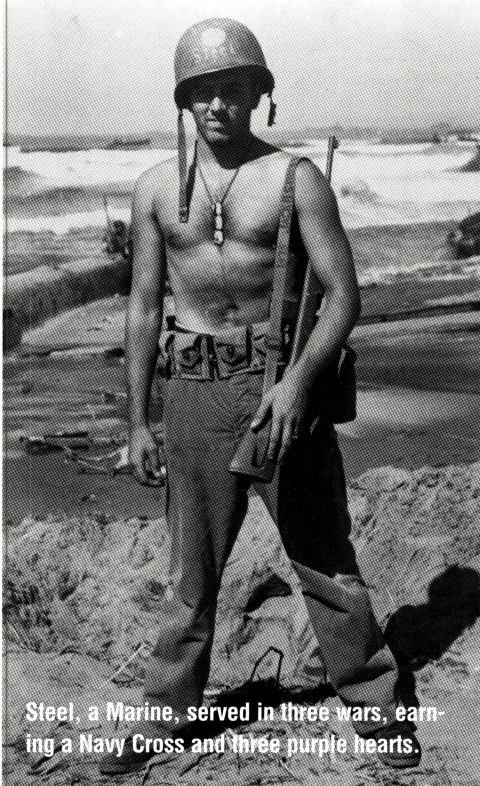
First Artist of the Underwater World



brought good prices in galleries and as limited edition prints.

Steel's technique evolved and matured in his later years. Earlier, heroic male figures, clad only in swim suits and fins, were battling the monsters of the deep. His paintings from that era look almost primitive compared with the exquisitely shaded realism of recent vintage. Yet they remain as artifacts that reflect the macho era of diving, a simpler time before the age of environmental consciousness.

Photos/courtesy Carole Steel



Steel, a Marine, served in three wars, earning a Navy Cross and three purple hearts.

After returning from Vietnam, Steel lived in Mexico for a while, then married Carole and settled in Santa Rosa, California. He painted seven days a week, but still made time for hunting and flyfishing, and he was a black belt in judo. In a 1996 interview, Steel stated, "I know a lot of better artists who haven't been as lucky as me. I've had nine lives, still got about two left...I'm happily married, got four kids and live in a beautiful spot. I paint every day and wouldn't trade with anybody I know in the world."

An American hero, John Steel died August 9, 1998 at the age of 77. 🐟

This October 1965 illustration is a rare depiction of a woman diver.

It was only supposed to be a 3-hour tour.

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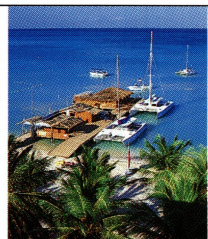
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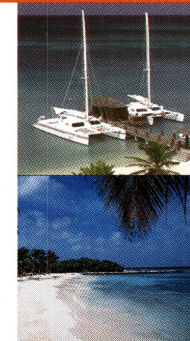
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the original skin diver

—excerpted from *Scuba America* by Zale Parry and Al Tillman

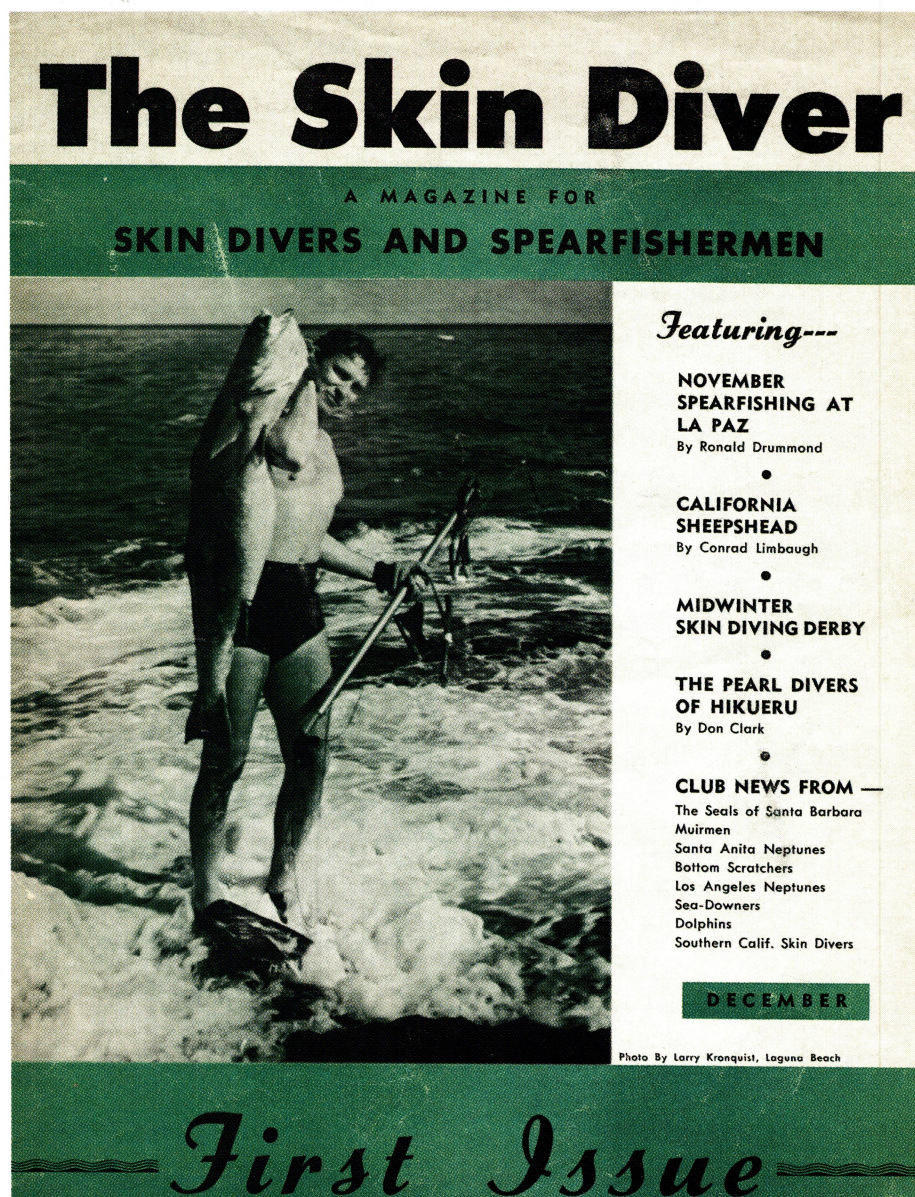
THE DEFINING EVENT:

FIRST ISSUE—DECEMBER, 1951

BEFORE *SKIN DIVER* MAGAZINE, COMMUNICATION between divers was about as good as Indian smoke signals on a rainy day. Divers wanted their diving spots to themselves and resented any other diver who intruded. They barely grunted in acknowledgement if they got close to each other. But all that began to change in December of 1951 with introduction of the first national magazine devoted to diving.

The first issue [produced by Jim Auxier and Chuck Blakeslee] was a peephole-look at diving around the country. On the cover was champion spearfisherman Doc Nelson Mathison with a gigantic White Sea Bass slung over his shoulder. The photo was a duotone green and black, while the rest of the magazine was in black and white. The back cover ad, also in two colors, was for Voit Rubber Company's mask and fins.

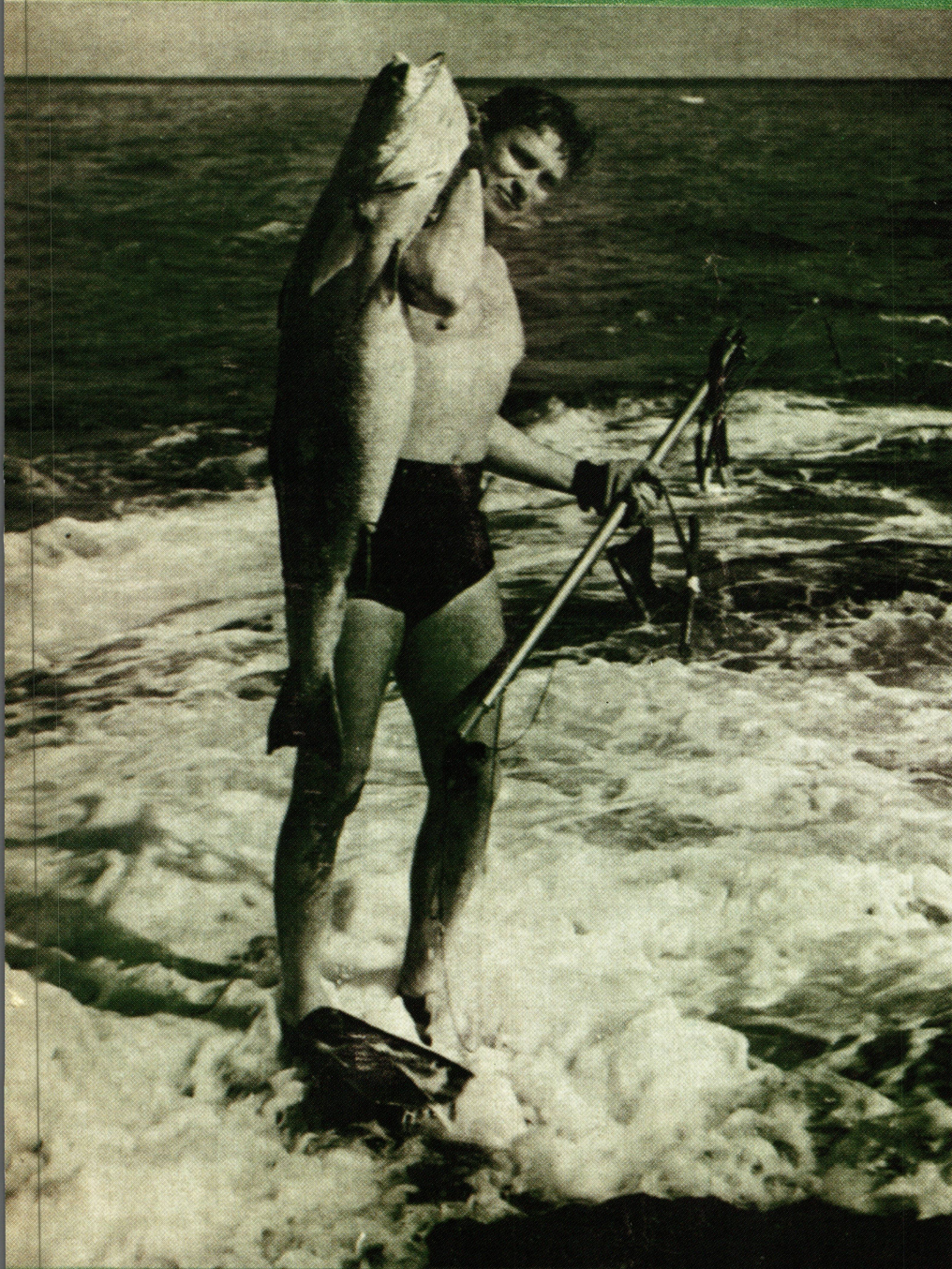
A total of 16 pages made up the Number one issue. It was skinny, but substantially full of exciting stories about activities and information for the world to read. News included the first annual Mid-winter Skin Diving Derby held on December 15, 1951. "Underwater fishermen and women from Monterey to San Diego, California, explored the kelp beds and underwater reefs for big fish, abalone, and lobster in an effort to win one prize. Prizes consisted of Aqua-Lungs, rubber suits, spears, guns, masks, flippers and a variety of other equipment amounting to almost a \$1,000." The article said that competition was keen since the world's best underwater divers tried their luck. The derby was held in part to build a "war chest" of money in support of the Southern Council of Conservation Clubs and the Ocean Fish Protective League.



"...in 1951 when Jim [Auxier] and Chuck [Blakeslee] managed to scrape [start up funds] together out of grocery money, they settled down in Jim's garage and Chuck's bedroom to publish...The Skin Diver."

The Skin Diver

A MAGAZINE FOR
SKIN DIVERS AND SPEARFISHERMEN



Featuring---

NOVEMBER SPEARFISHING AT LA PAZ

By Ronald Drummond



CALIFORNIA SHEEPSHEAD

By Conrad Limbaugh



MIDWINTER SKIN DIVING DERBY



THE PEARL DIVERS OF HIKUERU

By Don Clark



CLUB NEWS FROM —

The Seals of Santa Barbara
Muirmen

Santa Anita Neptunes

Bottom Scratchers

Los Angeles Neptunes

Sea-Downers

Dolphins

Southern Calif. Skin Divers

DECEMBER

Photo By Larry Kronquist, Laguna Beach

First Issue

THE SKIN DIVER

Volume I

December, 1951

Number 1

JIM AUXIER
EDITOR

CHUCK BLAKESLEE
ASSOCIATE EDITOR

Published at 11102 Virginia Avenue, Lynwood, California each month for the purpose of creating a further interest in skin diving and spearfishing and to provide an advertising medium for manufacturers and retail merchants of equipment used by underwater fishing and hunting enthusiasts. DEADLINE for advertising, feature material and photographs of January, 1952 issue — January 5.

This is an Editorial??

After several months of collecting material, ideas and data on our sport we are presenting to you this first issue of THE SKIN DIVER. You as a skin diver will find this magazine interesting from cover to cover because it was compiled, written and published with you as its reader. We hope you enjoy it.

The name of THE SKIN DIVER was picked because it includes everyone interested and participating in underwater fishing and hunting. Our policies are few and can be readily adjusted according to the trend or season. We make no claims on our journalistic talents therefore THE SKIN DIVER has many writers — all experts — not necessarily experts at writing but experts on the subject written about. If you have a message of interest to the skin diver notify us and we will be glad to publish it.

If your club or organization is not represented in this issue contact your publicity chairman and give him the word. We want to publish any and all items of interest to our skin diving readers, complete credit is given to authors and photographers. Club news is important to club members and also serves as a means of exchanging ideas and methods between the many skin diving clubs.

OUR ADVERTISERS

Voit Rubber Co., Rene Sports of Westwood, The Spearfisherman, Sea-Net Mfg., Inc., Fisher Sporting Goods and the charter boat "Maray" are all manufacturers and retail salesmen of skin diving equipment. The advertisers in THE SKIN DIVER make or sell everything in the way of gear a skin diver needs to enjoy our sport. Without them this magazine would still be a dream, patronize them and above all else mention that you saw their advertisement in THE SKIN DIVER. We will appreciate it and they will want to know that their advertisement was published in a medium that went direct to the skin diving customer. Also if you know of any one who makes or sells equipment or performs some service for skin divers and they are not advertisers as mentioned here let us know and we will contact them.

ON THE COVER

Our cover picture for this month is Doctor Nelson E. Mathison and White Sea Bass speared at Laguna Beach, California. Doc is well known in Southern California as a big fish getter, this bass being one of several for the Doc this past season. Doc is Vice President of the Los Angeles Neptunes and was a member of their team in the last National Meet. THE SKIN DIVER extends many thanks to Doc for securing the four page feature on November Spearfishing in La Paz and the wonderful cooperation he has shown us in our struggle to get underway.

OUT OF THE MAIL BOX

John G. Carter, President of the MINNESOTA SKIN DIVERS, writes that their activities are at a standstill due to their Minnesota lakes freezing over . . . Harold J. Aycok of the PALM BEACH UNDERWATER SPEARFISHING CLUB (Florida) sends congrats to the magazine and reports that their associate members are now arriving in Florida for the winter . . . Vi Potts, SEA NYMPHS President, reports a new member into their club of feminine skin divers, she is Miss Pat Gallagher, a student at San Diego State College and a candidate in the Marine Reserve . . . Department of Fish and Game Patrol Captain Robert G. Keneen writes of recent legislation legalizing the use of self-contained units for the spearing of fish and the taking of lobsters in season (California).

SUBSCRIPTIONS

On Page Eleven you will notice the Subscription Blank and the price of one year's or twelve issues of THE SKIN DIVER. This price will bring THE SKIN DIVER to your address, no matter where you are, for twenty-five cents per issue. As THE SKIN DIVER's circulation grows the yearly subscription rate will decrease accordingly. Send in your subscription blank immediately so you will receive the January issue, if there is no blank available send us your remittance of three dollars with your mailing address and you will receive the next issue. Thank you and Seasons Greetings from THE SKIN DIVER.

MIDWINTER SKIN DIVING DERBY

On December 15, 1951 the first annual Skin Diving Derby will be underway. Underwater fishermen and women from Monterey to San Diego will be exploring the kelp beds and underwater reefs for big fish, abalone, lobster and etc. in an effort to win one of the prizes being offered. Competition will be keen as some of the world's best underwater men will be trying their luck against all comers. The contest is open to any licensed fisherman over eighteen and the cost is only one dollar. The prizes consist of Aqua Lungs, Rubber Suits, Spears, Guns, Masks, Flippers and a variety of other equipment amounting to almost a thousand dollars.

The idea for the Derby originated with Phil Nourse during a meeting of the West Los Angeles Neptunes. The Laguna Contest was under discussion and most of the members objected to the idea of a lot of divers entering the water at the same time and at the same place. President Clint Harte and Vice President Bill Barada took the idea up with Rene Sports, Voit Rubber Company, and Sea Net Mfg. Co. who gave a lot of enthusiastic support as well as donating valuable prizes. The D. L. Davis Co. and all of the retail stores cooperated wholeheartedly.

This first attempt was a rush job but we think the idea is sound and it holds out hope for a means of enlisting the aid of all the divers behind legislation and conservation measures designed to help the sport. We are keenly aware of the fact that most skin divers are individualists and that the sport is not considered seriously by other groups. Our voice is pitifully small and weak among groups such as the Southern Council of Conservation clubs and the Ocean Fish Protective League but with this Derby as a means of building a war chest we may be able to make ourselves heard.

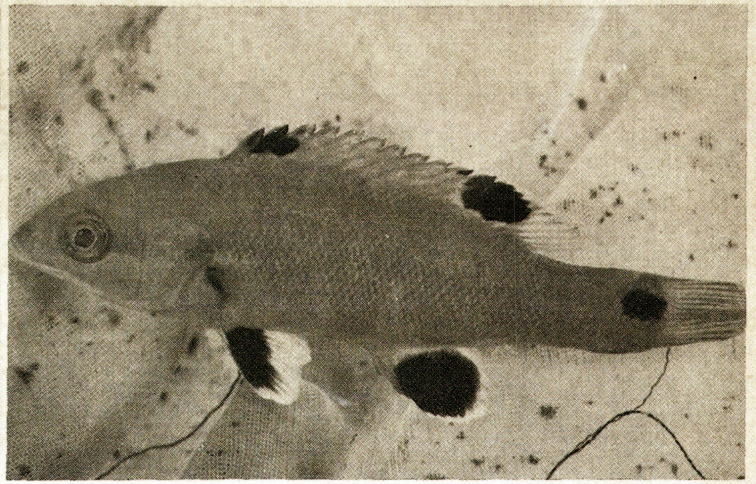
It is our purpose that any surplus money collected will be turned over to a committee representing all Skin Diving Clubs in Southern California, and is to be used to promote, through the proper channels, the opening of a summer lobster season for the sport fishing of male lobsters only.

SHARKS SEE SUB

The Ingle Aire Sharks aboard the charter boat "Maray" on November 13, were given a thrill when a U. S. Submarine made a crash-dive within 100 yards of the boat. It took less than one minute for the sub to completely submerge except for the periscope. Unfortunately no one had a movie camera.



A large adult male Sheepshead.



A young Sheepshead 1 1/2" long.

California Sheepshead

BY CONRAD LIMBAUGH

Conrad Limbaugh is a graduate student at the University of California's Scripps Institution of Oceanography. In the course of his studies he has spent much time diving and studying the fish life in the kelp beds.

Above photographs courtesy of Conrad Limbaugh and Scripps.

The sheepshead is one of the most colorful of the large fishes commonly speared by skin divers along the coast of California. Its bizarre shape, its large size and its abundance in the shore waters has made it one of the best known of our local fishes.

The sheepshead is a member of the wrasse family, Labridae. Two smaller members of this family, *senoritas* (*Oxyjulis californica*) and rock wrasse (*Halichoeres semicinctus*) also occur along the California coast. This family is much better represented in all the tropical waters. The brilliant colors and varied shapes of the tropical members rival those of birds and butterflies.

Sheepshead may be found from Pacific Grove, Monterey Bay to lower Baja California. They inhabit the rocky areas and are quite common south of Point Conception. They seldom leave the rocky areas and will not venture up from the bottom except in the kelp.

The males and females are quite different in appearance. The maturing males develop a large fleshy hump on the top of the head which increases in size as the fish grows older.

The males are usually brilliantly colored whereas the females are drab. The males are bluish black except for the central portion of the body which is a brilliant red or pink band. The crimson or pink appears white to the skin diver in deeper water because the water absorbs the red light. The movements of this fish may be traced in the weak light of a cave or in murky water by the very white chin. Over light sand in shallow water a male sheepshead may assume a very light uniform pink color. This makes the fish less

conspicuous against the light background of the sand.

The females are less conspicuously colored. They change their color with their background. They may vary their color from almost black to a light pink, sometimes with irregular bars. Females taken in deeper water are usually a uniform dull red above and pink below.

This rather chunky fish attains a weight up to 35 pounds. The average weight, however, is probably less than ten pounds. Males are usually larger and heavier than the females.

It is a solitary fish, although occasionally it may be observed with schools of other fish where it is probably attracted by the activity.

Moving almost constantly (apparently aimlessly) it employs the use of its pectoral fins exclusively. When in a hurry it uses its powerful tail. This apparently aimless movement is over a path which is already familiar to the fish, and provides suitable crevices for hiding. One spear scarred male was observed at nearly the same spot for a number of years by members of the "Bottom Scratchers" club at La Jolla.

Sheepshead are curious and congregate around commercial abalone divers as they work, nipping the abalone as they are removed from the rocks or even entering the diver's bag of abalone. They become a further nuisance by causing the abalone to clamp against the rocks before the diver can get an iron under them.

The food of the sheepshead includes a variety of mollusks, crustaceans and sea urchins. Opening the stomach of this fish will reveal the crushed shells of these animals. The large canine-like

teeth are used to pry these animals from the rocks. A special crushing plate located in the throat crushes the shells into small pieces so that they will not interfere with digestion.

The life span of this fish is apparently quite long. A specimen lived in the Steinhart Aquarium in San Francisco for over twenty years. They probably mature at the age of three years at a size from 11 to 14 inches for the female and slightly larger for the male.

Spawning occurs in the summer time. Nothing is known of their spawning habits or the very early stages of the fishes' life.

Young ones an inch long appear in December. They do not resemble their parents. They are brilliant red-orange with two black spots in their dorsal fin, a black spot at the base of their tail fin. The pelvic and anal fins are black trimmed in white. They live close to the rocks at depths usually greater than twenty feet. When disturbed they seek shelter among the red seaweed or the gorgonian corals.

By the following summer they are three to four inches in length and have faded. The brilliant red-orange becomes a dull pink. At the age of two years they are six to eight inches in length and have lost all their spots. At this size both males and females resemble adult females.

Spearing Sheepshead

Equipped with protruding canine-like teeth which do not add to its beauty this harmless rather heavy bodied fish with its rather unconcerned attitude has been known to throw terror into skin divers unfamiliar with its habits.

The unexpected vitality of this slug-gish looking fish has sent many a spearfisherman home with only a tale of the large sheepshead that got away.

Types of spears and methods of spearing vary with the individual sportsman. The tough skin and the large scales interfere with the penetra-

(Continued on Page 4)

CALIFORNIA SHEEPSHEAD (Con't)

tion of a spear and many a skin diver has lost a good fish dinner because of this.

In shallow water sheepshead are difficult to approach and will seek shelter in the rock crevices. In water deeper than 20 feet, they are apparently not so easily frightened. In any case the diver should screen himself as he makes his approach with any available cover such as kelp, rocks or the white water caused by the ocean's turbulence.

Chumming is a successful technique employed by many divers. Fresh abalone, crushed sea urchins, mussels or crabs will attract these fish in a matter of minutes. The best results are obtained when the chum is placed in water deeper than 15 feet and where suitable cover is afforded the diver.

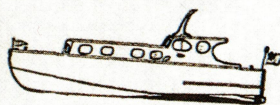
During lobster season some skin divers take advantage of the lobster traps. Sheepshead are attracted to the traps where they pull off the protruding legs of the lobster. By swimming from float to float a diver may observe a number of fair sized sheepshead. If he is sufficiently skilled and water conditions are right he can easily secure from 35 to 100 pounds of fish in a day.

The flesh of the sheepshead is considered by some to be of poor quality. However, skinned, filleted and cooked while still fresh, it will compare in flavor with the best of fish.

The End

Charters

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MIDWINTER SKIN DIVERS DERBY

For Affiliated and Non-Affiliated
Spearfishermen

RULES

Entry blank must be obtained before 12:00 noon December 15, 1951. Fee \$1.00. Available at local sporting goods stores.

Entries checked until 12:00 noon January 15, 1952.

Catches shall be recorded by weight and species; exception, abalone, which shall be measured by greatest length. Photographs of catches should be submitted whenever possible for publicity use.

Catch may be taken in any legal manner for underwater spearfishing by skin divers or with breathing apparatus. Diver must be in water and underwater at time catch is made. Catch must be witnessed by at least one other registered contestant. Entries accepted at listed check stations only. All catches must be fresh — not cleaned or cooked.

Derby is open to any licensed underwater skin diver over 18 years of age. Catch must be taken in coastal waters of Southern California from Monterey Creek to the Mexican Border. No one contestant may win more than one prize.

Contest judges are to be three members: One from Sea Net Manufacturing Company, one from Rene's Sporting Goods, and one from Voit Rubber Company. Decision of judges is to be final. Place and date to be announced later.

CHECK STATIONS

Aggie's Sporting Goods
504 Pine Avenue, Long Beach 12
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Avalon, California
Divers Supply
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La Jolla Sporting Goods
1051 Wall Street, La Jolla
Lou Bello's Sporting Goods
San Luis Obispo
Ott's Hardware
Santa Barbara
Prodon & Foote Sporting Goods
117 South Pacific Coast Highway
Redondo Beach
Ray & Al's Sporting Goods Store
290 Forest Avenue, Laguna Beach
Rene's
1045 Broxton Ave., West Los Angeles
Sports & Hobbies
702 Cass Street, Monterey
Stanley Andrews Sporting Goods
1144 Third Avenue, San Diego
Union Distributing Co.
281 West Sixth Street, San Pedro

FISH & GAME CODE

(California)

SECTION 794 — It is unlawful to take any abalone, the shell of which, measured in greatest diameter, is less than the following specifications: Red Abalone, seven inches; Green Abalone, six and one-quarter inches; Pink Abalone, six inches; Black Abalone, five inches.

From SECTION 792 — Abalone season is open from March 16 to January 14. Limit is 5 per day per diver. Fishing license is required.

From SECTION 971 — Spiny Lobster may be taken in any district by the use of the hands in the manner commonly known as skin diving or by use of diving apparatus of the type commonly known as the aqua-lung, provided, that spiny lobster so taken in District 19A may not be sold.

SECTION 782 — Spiny Lobster may be taken between October 1 and March 15.

SECTION 783 — No Spiny Lobster less than ten and one-half inches in length may be taken, possessed, sold or purchased.

HANDLE WITH CARE

Watch that ray, fellows, when you are taking it off your spear!!

The excruciating pain from a Sting Ray is something you will never want to experience. Poison glands are definitely present. There is no specific treatment for the puncture wound other than soaking in epsom salts water or possibly applying iodine, alcohol or potassium permanganate to help destroy the venom. Bacterial infection is also apt to occur from a puncture wound of this type. Better be safe than sorry when it comes to the Sting Ray.

ABALONE CHOWDER

$\frac{1}{2}$ pound ground abalone
 $\frac{1}{4}$ pound diced salt pork
2 medium onions, sliced
3 cups pared, cubed potatoes
 $1\frac{1}{4}$ teaspoons salt
 $\frac{1}{4}$ teaspoon pepper
2 cups boiling water
1 quart scalded milk
2 tablespoons butter or salad oil
1 teaspoon flour

Dice pork and brown, add onions stirring often until tender. Then add the ground Abalone, and boiling water. Simmer, cover, until potatoes are tender. Then add the milk and butter. Just before serving add $\frac{1}{2}$ cup of water brought to boil and thickened with 1 tablespoon of butter and 1 teaspoon flour blended together.



Spearfishermen Enjoy November Trip to La Paz

BY RONALD B. DRUMMOND

Photography courtesy of Doctor Nelson E. Mathison



When flocks of ducks are winging their way southward over the chilly winter waters of Southern California beaches, take a tip from Mother Nature, boys, and head for La Paz, near the southern tip of Lower California, Mexico. Only four hours by plane from Tijuana will take you to a complete change of climate and scenery — both above and below water. If you have never experienced skin diving in the tropics, La Paz offers the nearest and most inexpensive trip where you will find consistently clear water and a superb abundance and variety of tropical fish.

Our party consisted of "Doc" Nelson Mathison, Long Beach; Mel Fisher, Torrance; Chuck Peterson, Inglewood; Ted Warren, Redondo; Paul Hoss, Compton; Eugene Hobart, Hollywood; Jack Waite and his bride Charlie, Compton; and Ron Drummond, Capistrano Beach. For anyone interested in making the trip, "Doc" will be glad to furnish further information.

Just being in the town of La Paz itself with its balmy climate, shady palm fringed water front and old Spanish atmosphere is worth the trip, but for skin divers who are enthusiastic about exploring the innumerable coves and rocky points and long white sandy beaches — it is really "out of this world".

Since most skin divers are more skillful in spearing fish than amassing large fortunes, we had better say a few words regarding expenses. The round trip by air from Tijuana is \$70.00. Other small fees are: \$3.00 to enter Mexico (don't hand the Mexican immigration officer a \$5.00 bill or he will try to keep the change to buy beer); 50 cents a day to park your car at the airport; \$1.17 Mexican fishing license; and tips. We stayed at La Perla Hotel Annex which is not swanky, but plenty good enough for a bunch of fellows who want to strew the halls with diving equipment and store all sorts of marine specimens in the patio. We had the whole annex to ourselves and got our meals at the hotel itself about 100 yards along the waterfront. The cost for both room and meals was \$23.00 a week. The food is good, and you get all you want — which is an item of considerable importance for young fellows spending most of the day in the water.

About the only other expense is transportation to the various good diving beaches, for although the waterfront in town is very picturesque, we were advised not to swim there because of sewage. You can either hire a taxi or sports fishing boat. The more fellows there are in the party to share the ex-

(Continued Next Page)



Here's the gang and equipment destroying fish — writer Ron Drummond with camera.

penses the better. You can hire a taxi to nearby beaches for about \$1.50 (U.S.). An elegant sports fishing cruiser can be hired for from \$30.00 to \$50.00 according to how far you go. This is ideal for you can visit several beaches and your equipment is always handy on board.

One of our most enjoyable trips was to La Suprisa, a beautiful beach on the other side of several mountain ridges, where we found the only houses were two little shacks of woven palm fronds, built by a Senor Juan Vivas for weekend vacations. To reach this beach we hired a truck for \$30.00 and piled all our equipment in it, with an inflated five man rubber raft on top of the other equipment, to ease the jolts of the rocky mountain road.

Although our chief interest was spear fishing, it was fascinating to drive through the town and realize that the old patched adobe buildings and walls and crumbling concrete or brick squares around the shade trees, which were imported from India, were all part of a mellowing which had been going on since long before our own first California mission was founded. The better homes near the center of town had luxuriant growths of tropical trees and

vines in their patios, but the homes gradually became more shabby as we neared the outskirts of town until eventually we were passing the typical little poorly white-washed shacks, made of rough vertical boards and thatched roofs, which seemed to well fit the bleak barren cactus strewn environment of the Baja California countryside.

Our Mexican truck driver was a real front seat athlete. He drove at all times as fast as the narrow tracks through the mountains would allow, and kept us constantly ducking as the sides of the truck trimmed off the overhanging branches. It wasn't until we got up into the hills that we noticed that the seven inches of rain this year, instead of the normal three inches, had caused a layer of green grass over all the earth, and the high jagged mountain peaks gave an impression of Tahiti instead of arid Baja California. We crossed one canyon where many indigenous palm trees grew in the dry white sandy river bed, and we were surprised to see one little water hole alongside the road.

Anticipation ran high as we finally approached the white sandy beach and saw that the water was quite smooth and exceptionally clear. The sun was hot and there was no wind. By the time

we had carried all our gear down a rugged little gully from the truck to the edge of the beach we could hardly wait to get into the water, which was a bright emerald green close to the shore. Just as soon as each man was ready, he took off, trailing his loaded yellow one man life raft behind him. Soon from shore we saw a long line of yellow dots leading far out to the deep water where the big fish were.

The water was pleasantly warm. We could stay in all day and never feel the least bit chilled. After putting on a mask and gliding over the first few feet of white sand, we saw that the bottom was covered with a lush carpet of rich green sea plants. On close observation, each small frond was shaped like a little green feather. At first no fish were noticeable, but on looking up we saw, curiously circling us, several little needle-nose fish about six inches long. Also, at times, one or two long thin fish very similar to a pipefish swam around, curiously watching us. Later we found that they varied from about a foot to four feet in length. Their tails extended very gradually to a needle sharp point. The water became deeper until at about eight feet we passed over the green sea growth and found the bottom solid rock with numerous fissures, holes and undercut ledges. This offered ideal hiding places for many types of fish. One of the commonest was the little black and yellow vertically striped sergeant major which swam in various sized schools wherever we went.

We saw numerous porcupine fish which usually were browsing here and there in pairs around the rocks. When lightly tapped on the back of the head they immediately start to puff themselves up until they are perfect spheres and tight as a drum, with spikes sticking out in every direction. They were of all sizes, from only a couple of inches to about a foot and a half. A swimmer with fins can go about as fast as a porcupine fish and watch its comic little stubby tail wagging like mad.

One small variety of parrot fish was quite common. Each one had its particular shallow hole from which it never ventured more than a few feet, and when frightened would dart to this hiding place and enter head first, often leaving its tail in plain sight where it could be easily grasped by a swimmer. Another larger type of parrot fish had a most spectacular bulge on its forehead and was a masterpiece of brilliant colors. Paul speared one of the bigger ones and it weighed twenty-four pounds.

If one of the long spined dark purple sea-urchins was broken, or a rock scallop pried apart, there would suddenly appear from nowhere dozens of little

(Continued Next Page)

horizontally striped black and yellow and lavender fish to gobble up the exposed meat.

Little "bluies", gorgeous electric blue fish about one to four inches long, were seen in ones and twos here and there amongst the rocks.

The deeper the water, the more holes and undercut ledges and caves appeared, and these made ideal hideouts for larger fish. There were less of the small type angel fish with the blue trimmings and bright white vertical stripe down its middle, and more of the common type about eighteen inches long. Almost every cave harbored several of the larger varieties of local fish of sizes from about ten to thirty pounds. These included: small grouper, pargo, cabrilla, golden cabrilla, rattlesnake grouper, etc. Occasionally we saw open water fish such as pompano and sierra mackerel.

When we were in water about thirty feet deep we swam over an undercut ledge with holes about three feet in diameter in the top of the ledge. It looked like we were getting into a good jewfish area so I dove down with my camera, just to get familiar with it, and frightened a jewfish of about one hundred pounds from one hole to another where we looked down and saw it motionless, apparently thinking it was well hidden, although we could see most of its back through the hole in the rocky ledge above it. Doc prepared to dive for it with a CO2 gun, but it darted away in a hurry.

Just then Jack came by on his way to shore with an eighty-seven pound spotted eagle ray he had just speared. It was still very much alive and had four stingers in its tail, each about four inches long.

Jack had just left when we spotted a hawksbill turtle on the bottom between some rocks, and tried to catch it by hand, but approached it too quickly and frightened it away.

While Doc and I were interested in the turtle, Chuck, about one hundred and fifty yards farther out, spotted a huge jewfish. He immediately dove and shot it with his gas gun, but the spear simply bounced off. Mel took movies of Chuck spearing it, and later made a second dive with his camera, but could not see the jewfish because of a dense school of striped perch. He swam down into this school and they separated and again he saw the big jewfish. It must have been a tempting sight, for he put his camera in his raft and came back with his gas gun fitted with a detonating head. The gun worked all right but the detonating head didn't go off. The spear held, however, and the fish darted through two caves thirty feet away.



Jack Waite and his eighty-seven pound Spotted Eagle Ray.

Mel dove again and shot the fish in the side so they now had two spears in the fish, but in a few minutes the second spear pulled out.

The fellows had just about fifty feet of line on their guns, so they could tell that the water was just over fifty feet deep. The top of each cave was almost forty-five feet down. These caves that the fish tried to hide in were about fifteen feet deep horizontally, so it was too dark to try to photograph the fish, and also difficult to get a good shot with a spear gun.

Ted went down twice but didn't shoot. On his third try the detonating head was on safety and his spear bounced off. Then Chuck dove twice, but his spear was out of gas, and twice the spear bounced.

Suddenly the fish ran back the way it came, and when it was in open water they tried to pull it up, but the line was hooked on a rock. Mel went down and unhooked the line, and before he could come to the surface for air, the fish went in another cave. Chuck then dove down to look the situation over and found that two strands of the three strand fifteen hundred pound test nylon line were broken. Mel repaired another gas gun and went down again and the gun was empty. Ted dove with an arbalete (French rubber gun) and it bounced off. Then they put a detonating head on an arbalete, but apparently

the .32 caliber blank shells had become damp, and it didn't go off.

We all knew that these big jewfish had awfully tough hides, but this fish seemed to have either a lot of luck or a charmed life. Chuck dove with another detonating head and arbalete, using an aqua-lung. He took careful aim at the fish's gills, but it must have hit a tough part of the fish's gill-plates, for it bounced. Using the aqua-lung, Chuck went down to pull the fish out of the cave, and the third strand of the nylon rope parted, so the fish was free.

For the next forty-five minutes there were still more attempts, for the fish was hiding in the end of a cave, with its head hidden and its body exposed broadside to the divers. Of course in between dives there was much discussion as to the size of the fish, and its weight was guessed all the way from one hundred and fifty to five hundred pounds. Doc dove down for one look and then went off out into deeper water to get a larger fish for himself.

Finally Chuck went down with the aqua-lung and clear into the end of the cave. With his face right beside the fish he picked up the broken line and tied it together again. He pulled the fish out but it went right in again. Paul then came over with his CO2 cartridge gun, and Chuck took it down, but it bounced. At last Ted managed to stick a regular head into the fishes side, and

(Continued Next Page)

Chuck, using the aqua-lung, pulled on both lines and pulled the fish out of the cave into open water.

The line that had been tied together pulled out, but Chuck managed to keep the fish out in the open and Jack shot it with his cartridge gun and a detonating head. The spear hit a glancing blow on the fish's head and didn't penetrate, but it pushed back the trigger that sets off the detonating head, which exploded, and the concussion stunned the fish as it was dashing back and forth while Chuck was pulling with all his two hundred twenty pounds on a taut line. All this terrific action stopped suddenly when the detonating head went off, and at last the fish floated to the surface — belly up.

After a long hard tow to shore, we made a tripod of large yucca stalks and hoisted the fish for weighing and photographing. Its weight was just two hundred twenty pounds — the same as Chuck's.

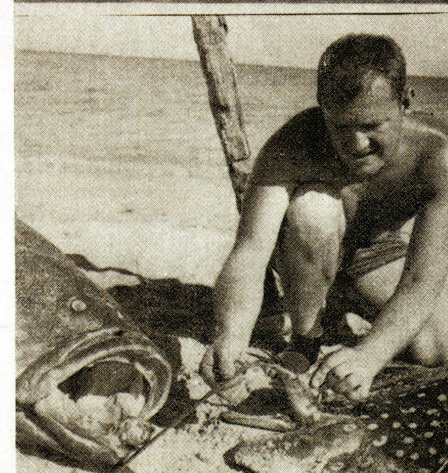
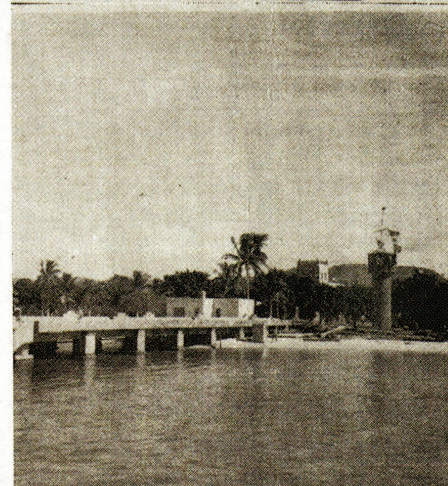
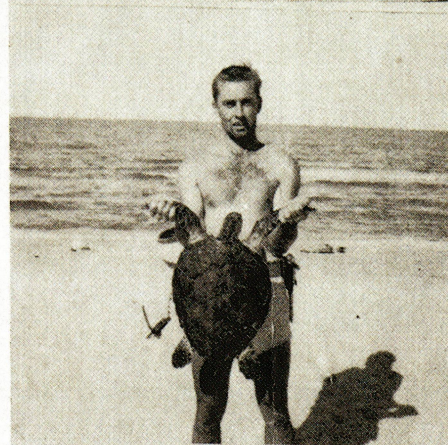
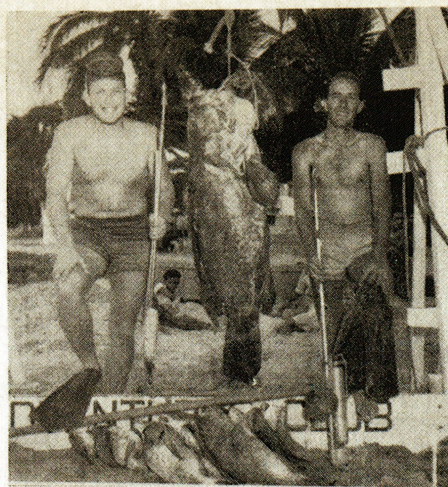
That evening we all sat around the camp fire on the beach and had delicious fish for dinner, while a beautiful sunset faded and the full moon rose over the calm sea. We had one Mexican visitor who had his own little ranch several miles away. He really hit his stride after a hearty portion of fish and tequila and regaled us with several Mexican songs.

It was also interesting to hear some of each fellows own diving experiences. Paul had caught a nice hawksbill turtle by hand. He also shot at a manta-ray, but the spear glanced off its head and fell down between the two arms on each side of its mouth. When the manta-ray took off, the spear caught and Paul was pulled so fast through the water that he was glad it came loose.

Ted had brought in a whole raft load of all sorts of interesting and unusual marine specimens which he had found in the water around one of the small islands.

Doc, who speared the largest fish on the previous trip to La Paz had some poor luck. Three days before at this same beach he got his spear into one weighing somewhere between two and three hundred pounds, but it got away after setting his raft on end and pulling it out to sea. Ten minutes later he got one about one hundred eighty pounds, but the spear pulled out. Later Doc and Mel both dove on one together, which they estimated at five hundred pounds, but it took off at full speed and they didn't get in a single shot.

That same day Paul speared a man-eating type shark about twelve feet in length and Mel got movies of it rolling until it broke the line. The water was



Misc. shots at La Paz — see story.

about seventy-five feet deep, and they couldn't see the bottom from the surface. Mel followed another shark down and saw about a dozen other big sharks lying quietly on the bottom, so he decided discretion was the better part of valor, and swam away from the area.

Soon a school of between fifty and one hundred eight foot bottle-nosed porpoises (dolphins, to be correct) swam by him at full speed. He ducked under with his camera and got movies of them coming straight at him, and said it gave him quite a scare, but it was reassuring to know that the big sharks were probably no longer nearby, since they are believed to keep away from porpoises.

The next time Chuck sits around a campfire to swap true spear fishing stories he'll have one that is hard to beat, for three days later he experienced one of the biggest thrills of the whole trip. He speared a one hundred twenty-one pound jewfish which turned on him and attacked him. It took his whole knee in its mouth and left a nasty circle of bleeding tooth-marks. Fortunately it didn't hold on or it could easily have held him under and drowned him. When it made another rush right at his face I thought it was going to take his whole head in its huge mouth. Chuck's spear gun was not loaded, so he pushed frantically on the edge of its big thick lips with his left hand and drove his hunting knife upward into its throat, lifting the fish and ducking his own head at the same time. It worked, and the big fish slithered on over his head.

While all this was going on I was trying to maneuver my under-water camera to within exactly ten feet. Shutter bugs will appreciate that this was really photography under extreme difficulties. The fish would come toward me and then turn and head back toward Chuck. Perhaps the water-box in front of me frightened it — or perhaps it just had a particular grudge against Chuck, for, after all, his spear was still buried in its side. I was shooting 4x5 ektachrome with an F/2.5 Aero Ektar lens wide open, and my depth of field was ten and one half inches! That picture was taken in one awful hurry while Chuck and the fish were in the act of sparring face to face — and am I anxious to see how that one turned out!

We had originally planned to go diving with waterproof flashlights after that fish dinner at La Suprisa, but after sitting around the fire we were all just too tired and sleepy, so we laid our bedding out in a long row on the white sand in the full moonlight, and in no time we were all dead to the world.

The End



BILL HAZEN, President of the Sea-Downers Underwater Hunting Club, has in hand a 35 pound "Ray" and at foot, a 9 pound Bass speared at Palos Verdes. If Bill had a hat on, you'd see a feather denoting him one of the Coast's most enthusiastic underwater-hunters. The boys work in pairs on these Sting Rays as a safety note. Bill speared this one, then his companion moved up, grabbed the tail and with knife in hand, "debarbed" the Ray; they tied him to their float and moved out for the next one.

SEA-DOWNERS

By Bill Hazen

The Sea-Downers Underwater Hunting Club waxes warm in welcome to this publication — "The Skin Diver". We speak with ensured enthusiasm for the future of this voice of the underwater-hunter.

A few words having been sought from us on the "Sea-Downers", we might say we look back on two years of building a club of estimable comradeship and praiseworthy purpose among its now half a hundred members. Among its numerous aims, there stands out one which bears iteration and reiteration among all clubs and all underwater-hunters — this is Safety. In this diving for fish, lobster and abalone sport, danger must not be overplayed nor underplayed. Our sport is a very healthy one, and it's up to us to keep it so. In brief, we must perennially promote "pair-diving". Concentrate on your game, of course; but first, concentrate on the mutual safety of yourself and your companion-diver. And with him doing likewise, you can continue having safe enjoyment of one of the most magnetizing and salutary sports in the world.

DOLPHINS vs. SEA-DOWNERS

Palos Verdes' Flat Rock was the setting for a two hour meet on November 25, 1951, between the Dolphins of Compton and the Sea-Downers of West Los Angeles.

Sunshine and clear cold water must have really brought the fish out with a total catch of 217 pounds of fish for the two clubs. The normal species of fish prevailed, Sheepshead, Cabezone, Opal Eye Perch, Buttermouth Perch, Calico Bass and Sculpin.

The Downers' Pat O'Malley had the largest three fish of the day with a 11 pound Cabezone, 12½ pound Sheepshead, and 10 pound Calico Bass.

The Sea-Downers led the first hour with 68¾ pounds to the Dolphins 44½ pounds, but the Dolphins really picked up the cripples the next trip out to come out winners with 120 pounds to the Downers 97 pounds.

A trophy was presented to the winning Dolphin team. Good sportsmanship prevailed between the two 5 man teams and other members. More meets of this type are recommended to create more interest among the club members and to prepare the teams for the National Meet at Laguna Beach.



PAUL HOSS and 18½ pound Sheepshead he speared near Flat Rock in Palos Verdes during the last winter by evidence of the "man from Mars" outfit. Paul is President of the Dolphins Skin Diving Club of Compton and was a member of the Dolphin's team in both the '50 and '51 National Underwater Spearfishing Championships at Laguna. Paul is also pictured on Page 8 as a member of the spearfishing adventurers at La Paz, Baja California.

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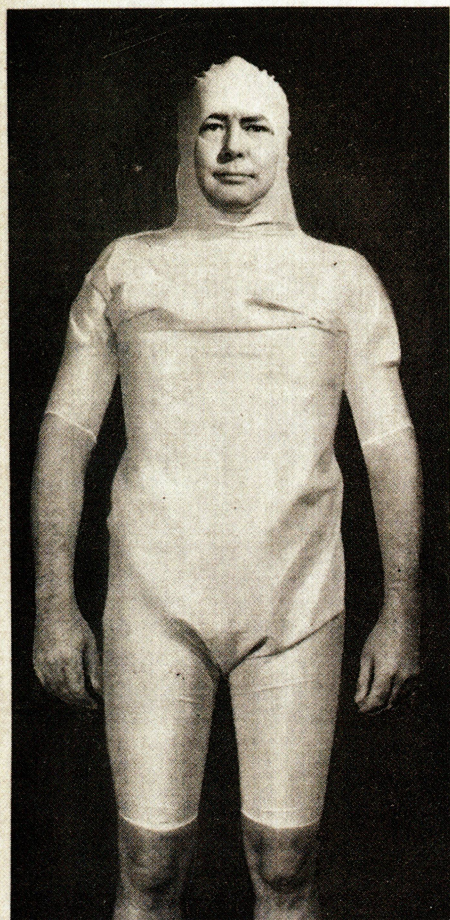
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LA PAZ — *The Spearfishermen's* *Heaven . . .*

By Dorothy Davies

On October 19th, 1951, a select group (select meaning: ones who had the dough) composed of Surf Raiders and Neptunes, left for La Paz.

The weather is perfect for skin divers. hot days and warm balmy nights, but never the less, take a jacket. The Mexican Airlines are not as up to date as ours, and it gets somewhat drafty. In fact, darn cold after the plane gains altitude. We have proof of that by ten cases of sniffles acquired coming back.

The trip was very successful in the amount of fish brought in, but not the size. The largest fish was near 40 pounds. The main difficulty we came up against was the lack of heavy equipment. Large Grooper were fairly abundant, averaging between 100-500 pounds, but the gear we had could hardly penetrate, much less, hold them. The first three days left our gear in critical condition. Anyone planning a trip down that way, take all the heavy gear you can get your hands on, you'll need it.

The water was somewhat comparable (?) with our local waters. Waves were one foot high, water temperature 81-83, visibility 60 feet. Unfortunately, we hit one of the worst months. According to reports, the best months are June, July and August. At that time, the air temperature is near 100, the water about 85 and the visibility over 100 feet.

Shark situation has been fairly cleared up, due to the commercial fishing for livers. Phil Nourse, of the Neptunes and Surf Raiders, did acquire a pet of about 15 feet, which followed him about, playing 'hide and seek', and James Dahl, of the Surf Raiders, had a 10 footer cruising behind him for a while. It didn't worry him, he knew it was just curious (he said, as he swam madly for shore).

The hotel in La Paz is exceptionally clean and the food is terrific. Beef steaks and eggs for breakfast, who could want better? The cost for the hotel is \$3.50 per day including meals.

Incidentally, in the hotel cantina they have a very fine triple Tequila Collins about 50c, American.

La Paz, we'll be back again in July!

Say, have you ever tried night diving? No? well some calm eve get the gang together and with waterproof flashlights invade the inky waters that a moonless night will beautify. Yes the darker the better. As your diving pals pass under you they seem to be on fire

SANTA ANITA NEPTUNES

By Al Tillman

Despite the winter months approaching and difficulty during that period of promoting skin diving, our club has had many additions to the group. The additions are not exactly members; they're spear guns. Five of our members in the past month decided they couldn't wait until Christmas and went to work convincing their wives that "the guns would pay for themselves." The moral of this story is one for spearfishermen: don't ever shoot a spear gun or you'll never be satisfied with less.

Ironically, most of the new guns haven't been fired since "bug" season is in full swing and promises rich rewards. The last two club trips were devoted especially to lobster. An October trip to Dana Point yielded a club limit of large Abs and a dozen or so minimum size bugs. The big ones seem to be out in deeper water, possibly awaiting the hardening of their shells. At any rate, the fellows all desire a return trip to Dana some fair weather day before the season closes.

Four of the Santa Anitas hit Palos Verdes at a choice spot and did very well with several five-pound lobster. The big catch was a fourteen pounder. Dick Hall, star of our diving team, is a devotee of Flat Rock and it's a rare occasion when he can be led elsewhere, however, on this trip he stopped bickering with "Professor" Jess Ranker long enough to prove himself a good bug man as well as a big fish operator.

Jess Ranker and myself are collectors and we don't care what we spear or pick up. There's not always meat on the family table but Jess has an outstanding shell collection and last time I came across a dandy metal tackle box. Don Tillman helps balance the divergent types in our group and keeps the spirit of competition burning. Don is planning a trip to Punta Bunda, Baja, California, very shortly and so far Kenny and Bruce Graves have made definite plans to accompany him. They tell me that they know a cave with a lobster as big as Don in it—Don's 6 foot, 5 inches. I guess I'd better take a tip from the abalone and "close on that one".

as the phosphorous streaks from their bodies. The fish will be motionless and you can closely observe all of the beauties and of course the magnification, for old man lobster looks like "he" might be after you, but of course the reverse is true.

LOS ANGELES NEPTUNES

By Woody Dimel

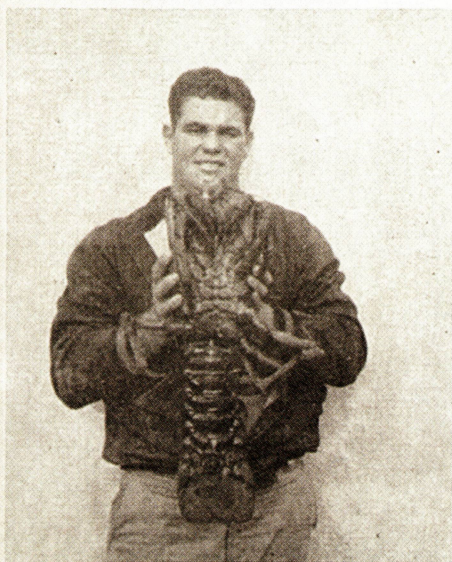
We of the L.A. Neptunes are happy that someone has finally published a magazine for skin divers. We are most happy to contribute to such a magazine.

Skin diving, or more specifically spearfishing, has recently been recognized as a sport ranking with rod and reel fishing and other water sports. It has been a battle for this recognition from the days of a few years back with only a handful of skin divers to the modern times and thousands now enjoying the sport. Organized skin diving clubs have been largely responsible for this gain.

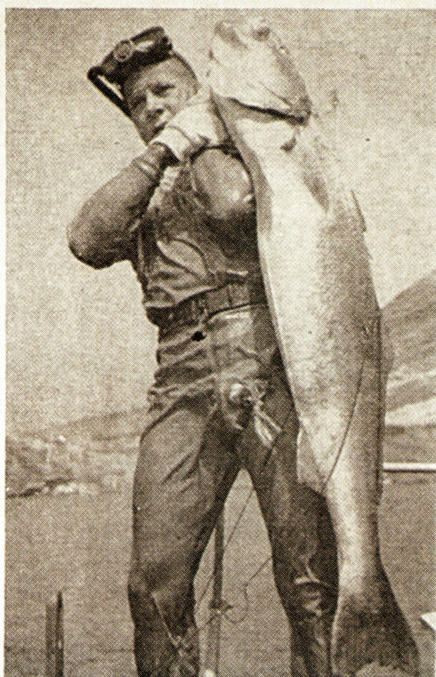
Through the efforts of organized skin diving clubs it became legal to spear fish under water. The International Underwater Spearfishing Association was set up to record underwater spearfishing records. The maximum size limit on lobsters of sixteen inches was removed. These gains were made by organized clubs.

The Los Angeles Neptunes have been attempting to secure a summer diving season for male lobsters without success so far. I believe that with the concentrated help of all the skin diving clubs we can obtain such a season. We have been a lone voice on the floor of the Southern Council of Conservation Clubs against the many rod and reel clubs. If you do not belong to a club then you should join one now and get in the battle to further the cause of skin diving.

This magazine is another step in the right direction. The L.A. Neptunes salute "The Skin Diver" and we drink a toast to its success.



AL TILLMAN with fourteen pound bug taken at Palos Verdes in October — smile Al.



WOODY DIMEL of the Los Angeles Neptunes with a 39 pound White Sea Bass he speared at Catalina Island.

Photo courtesy of Julius Downs



RODERICK WHITE with 40 pound Angel Shark taken with a 5 prong spear off Lighthouse Point in Santa Barbara.

SANTA BARBARA SEALS

By Roderick White

In March, 1950, several local divers, Robert Arnold, Wyman Stackhouse, and Roderick White, got together with the idea that a skin-diving club might prove advantageous to enthusiasts in Santa Barbara. They thought that with the pooled interests of at least 8 or 10 members they could more firmly establish and promote the sport in this area as well as financially afford more and better diving expeditions.

Using these two theories as a basis, they proceeded to draw up a charter which stated the club's purposes, procedures, and requirements—all of which emphasized the sport of skin diving and minimized the social aspect. Then after much discussion and elimination of various underwater creatures which might represent the organization, they decided upon the Seal — hence the origin of our name and ultimately our emblem, which was capably designed by Wyman Stackhouse.

As for our activities since then, most of our time has been taken up with exploring new grounds and, of course, gaining more experience. Although we are graced by having some of the best lobster and abalone waters on the coast, we are at a disadvantage in having a lack of large game fish and exceedingly temperamental water conditions.

In the future, however, there is one bright light which we hope will ultimately lead us into real competition with other larger and better-established clubs in California, and that is the Santa Barbara Islands. It is every skin diver's dream to tangle with that big one, and we think the islands are our best bet to realize that dream.

It is our sincere hope that Seal members Robert Arnold, Robert Yeargin, Chuck Fare, and Tony Barragona, who are currently in the Armed Forces, will return safe and soon to take over where they left off in making our club a success.

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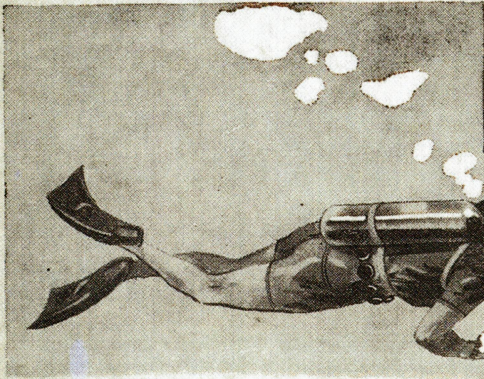
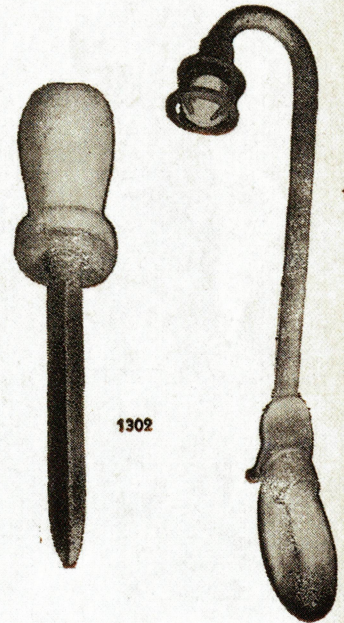
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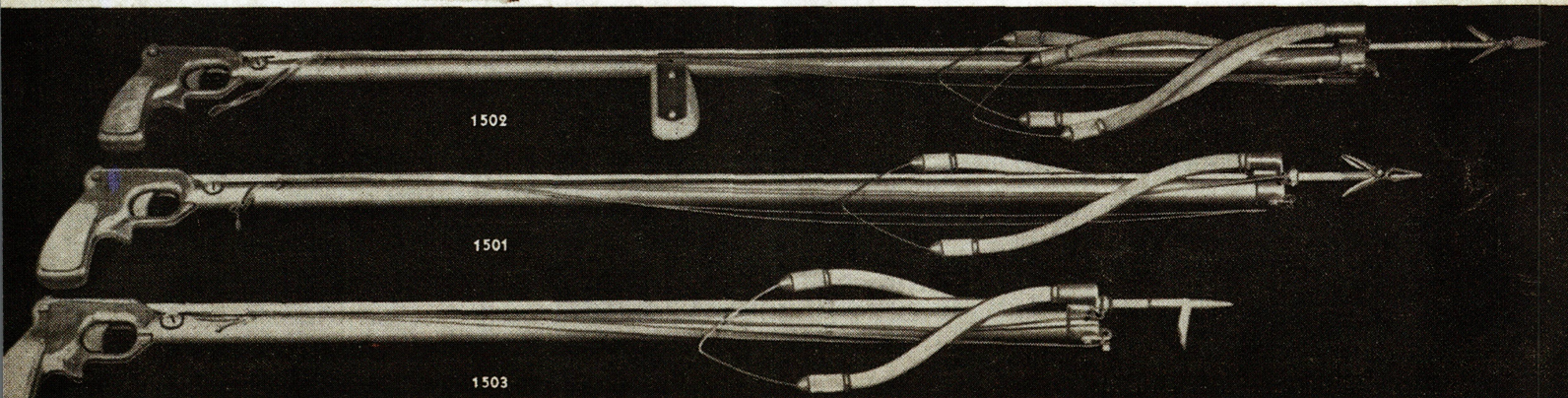


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DON CLARK, Bottom Scratcher and world traveler, with record Jewfish.

The Pearl Divers Of Hikueru

BY DON CLARK

I returned recently from Tahiti and nearby islands spearing fish, taking underwater movies, pearl diving and investigating Tahitian customs and girls (valines are what they call them there). I had a huge time but was unable to spear a fish larger than 26½ pounds while there.

I spent three months on Hikueru, a coral atoll in the Tuamotu Archipelago, that is famous for pearl diving and the hurricane of fifty years ago. As a foreign tourist I was welcome to do all the pearl diving I wished as long as I confined it to obtaining souvenir oysters for my own use.

The divers there use a pair of metal diving goggles and no swim fins, also a lead weight to carry them down for a stay of about two minutes, then they

climb the basket line to the surface.

The eight mile oval atoll is split into three sections, one of which is opened four months, then the atoll is closed for a year to allow a new growth of oysters. First they start diving for the pearl shell in two feet of water. Before the first week is out most of it is picked off to 30 to 40 feet deep. The second week the diving has reached the depth from 60 to 70 feet. The third week I made an 85 foot dive and ripped off one oyster before returning to climb the basket line (I used ten pounds of weight). I had obtained enough shells by this time so I would just dive to 60 feet and watch them working down at 100 feet or more. Before long they would reach their maximum depth, 120 to 130 feet; 20-22 fathoms.

The four months season will harvest some 250 tons of "parau" as they call the pearl shell which brings 40 francs a kilo or about 30 cents a pound. The divers make from \$5 to \$60 a day. The most fall in the \$15 to \$30 a day class. As the season progresses the yield drops off, good pearls are few and far between. The first ten days of diving brought three pearls which netted the divers \$200, \$400 and \$800. Much later on, a perfect 14 caret black egg-shaped pearl was fished up and sent to France with a \$5000 price tag on it.

Of course they use outrigger canoes and one outboard tows six or eight others in return for ten pairs of medium sized shells. The canoes are anchored with a diving weight and they are dropped back on a quarter mile of line. A heavy manila line is used for the basket which is made of a heavy iron ring and woven net below and is hung just off the bottom, high enough to clear the coral. The diver can steer the basket to the sides or swing the canoe by shifting the anchor line out to the outrigger.

They use a mitten glove on one hand, it is homemade of double thickness light canvas. The diving goes on six days a week, if they feel good or no storms appear, but take time off to rest and spear fish any time. The canoes leave the village between seven and eight and they dive until about two, then eat lunch, sleep or spear fish in shallow water until four o'clock.

A 25 year old diver was making \$60 a day but was getting punch drunk because some of the brain cells die from oxygen starvation. Nevertheless there are some grandfathers around still diving at 50 and 60, also a few at 70 years of age. The older ones aren't punch drunk so there must not be any injury if common sense is used.

I also saw how the pearl divers die. Thou was a thirty year old diver, born in the Tomotu. He wouldn't admit to himself that he wasn't good enough to dive twenty fathoms—his heart skipped a few beats and he passed out. I helped work on him for hours and adrenaline was injected but to no avail. Last year two divers died at this atoll but they were youngsters of twenty and twenty-two trying to change over from helpers to divers and were working too deep.

The normal population of Hikueru is about 150 but there were 800 for the diving season and over 200 divers among them. Later I may tell of the other islands, being bitten by a shark, and native dances.

The End

BOTTOM SCRATCHERS

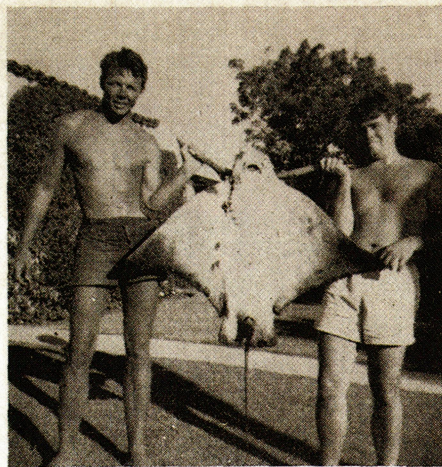
By Don Clark

The Bottom Scratchers Diving Club is the oldest organization of its kind in the country and has eleven members, eight active, two inactive and one dead. The president and mailing address of the club is Jack Prodonovich, 3824 Ampudia St., San Diego 10, California.

Jack has perfected his combination .38 blank impact head and rubber powered spear which enables him to lay off fifteen to twenty feet from a fish of several hundred pounds and shoot his rubber gun which propels a 5/16" stainless shaft, 5' long, carrying the foot long .38 special blank gun. The gun which fires on impact, shoves the dart with nylon line attached to a "Mae West" which floats to the surface. This is how Jack got his 310 pound Jewfish this year. Yours truly's 440 pound Jewfish is still tops.

EDITOR'S NOTE — Don Clark and his Jewfish are pictured on page 13 and you will notice it was far to big to get in the photograph.

Have your club Publicity Chairman mention your name in his next column in **THE SKIN DIVER** — furnish him with a picture of yourself now so he can send it to us. Show your magazine to your friends and let them know that your sport and hobby is not just an exciting oddity. See deadline date on Page Two.



DICK JAPPE and BILL WILSON straining on sixty-five pound Bat Ray — Pacific Palisades.

Shark Kills Aussie Surf Ski Champion

A shark killed Frank Okulich, 21, Australian surf ski champion, at Mewether Beach, Newcastle, on December 6th. His mauled body was washed into shallow water an hour after horrified on lookers saw him dragged under.

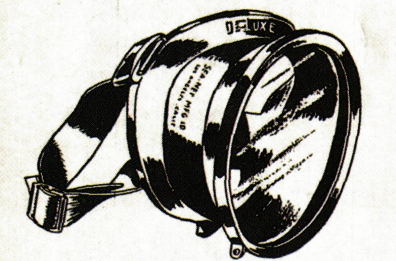
MUIRMEN

By Frank Hops

The Muirmen were formed as a group at the end of the war. Three of the members had been diving together since 1938 in the Laguna Beach, California, area. While attending John Muir College, playing water-polo and swimming on the swimming team, the idea of the Muirmen was born. We have always been a small but closely knit group and average about 26 week-ends a year at the beach. We make no claims to any record fish, in fact our only claim is to 13 years of fun and good sportsmanship (plus some wonderful seafood meals and a savings to our food budget at home).

We dive for about everything that moves in the ocean, except Garibaldi's. At the present we are after legal lobster and due to the cooler temperatures we use our gum rubber underwater suits. In 1950 we ended up about sixth in the National Underwater Diving Meet at Laguna, this year we were third.

Attention — The purpose of this magazine is to bring true diving facts and experiences to our readers — so don't have any doubts about your writing ability — send any pictures, humorous stories or yarns to **THE SKIN DIVER** for future publication.



Join our National Frogman Club. Membership includes booklet on Spearfishing and Underwater Swimming compiled by Frank Rodecker, an original Frogman and Skin Diver. Write for details now.

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SOUTHERN CALIF. SKIN DIVERS

By Harry Vetter

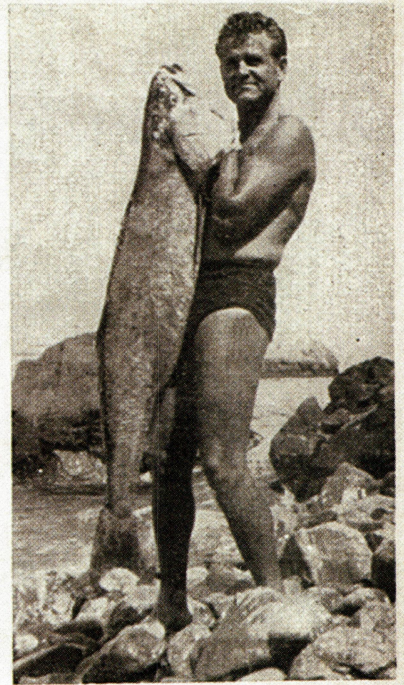
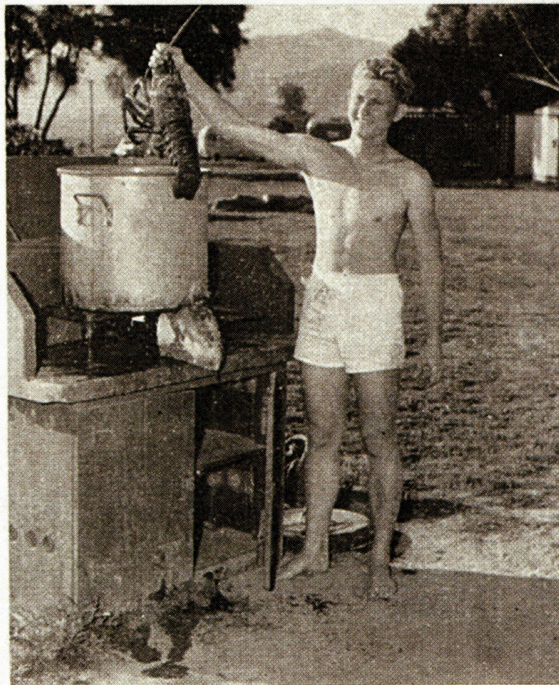
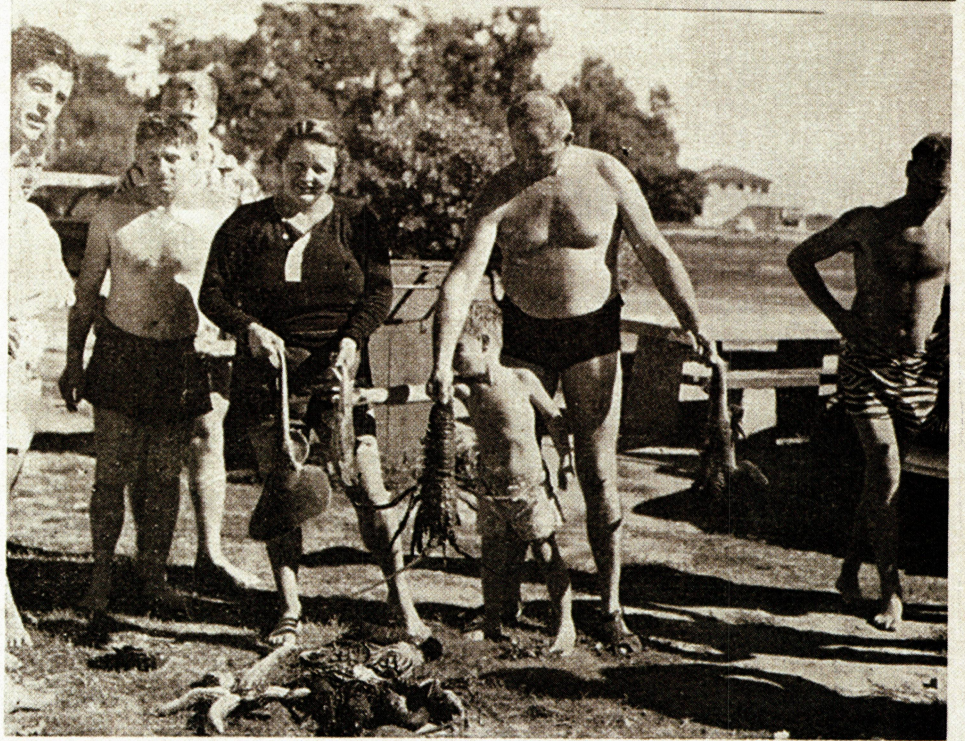
One of October's warm sunny days and Carpenteria's calm water brought out thirty active members for the 1951 SCSDC Annual Lobster Tournament. Tournament hours were from 8 A.M. to 4 P.M. Catches from anywhere on the coast were honored if declared and exhibited, within time set, at clubs out- ing headquarters at Carpenteria State Park.

Below average catches were experi- enced, the largest lobster being only nine pounds, some of the members seemed to think that the waters warm temperature explained the lack of lobster.

Top catches of the day were honored by the presentation of two trophies— first, for the most skillful catch, to Jim Perry of Redondo Beach, Calif., and second, for the largest lobster caught, to Harry Vetter of Lomita, California.

Competition was pretty keen, most members pausing in their diving at noon for a snack of ice-cold watermelon which really hit the spot. The water- melon was timely donated by Lawrence Lopez, the club's official photographer, who since has become the official con- nection with greengroceries. After this snack everyone again began looking for Bugs.

As usual this annual October outing was a huge success and enjoyed by everyone participating. It was a tired and happy group of skin divers that ended the tournament, some of which cooked dinner or their catches on the gas stoves furnished by the Park before heading for home.



Rubber rafts on Jeep — what Jeep? JACK WAITE is all over this page.

TOP — Two group pics of SCSD on tourney day — some fun.
BOTTOM — HARRY VETTER and winning bug; BUD ABERNATHY and WSB caught at Catalina.



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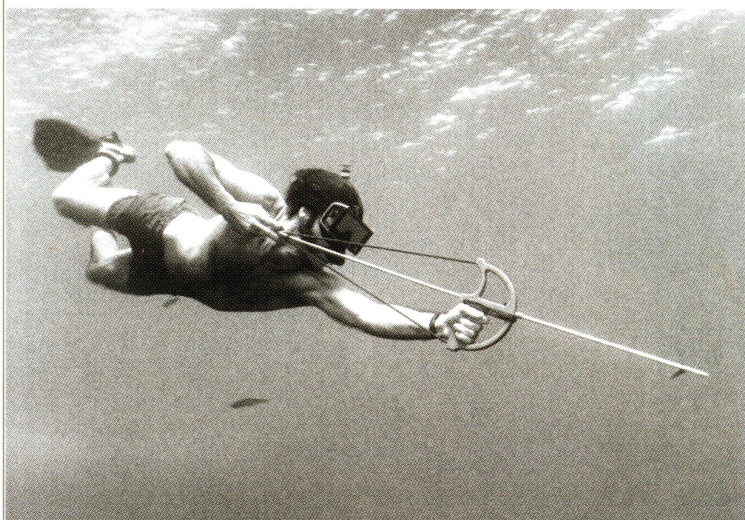


photo/Skin Diver archives

SPEAR FISHING

LOTS OF SPEARFISHING. THAT'S WHAT DIVING WAS ALL ABOUT IN THE 1950s, and it was reflected in the pages of *The Skin Diver*. As the high priests of diving in that early era, Wally Potts and Jack Pradonovich, had this to say: "There were gangs of fish everywhere, dozens of abalone in every crack, two or three lobster in every hole; it seemed an abundance that would never run out."

No one envisioned a future that required searching all day for fish or a single abalone. The Coronado Wetbacks talked about going down to Guaymas, Mexico, where club president, Pete Glynn, and others shot big fish and had them swim off, "to die, perhaps, but die in freedom," and that "The rod and reel boys were eating fish with holes in their sides."



photo/Skin Diver archives



Photo/Ron Merker



photo/Skin Diver archives

There were so many photos taken of triumphant divers beaming over their catch, that some creativity was called for. Above: One diver graced his MG TD with a prize sea bass. Above Center: a diver uses the odd-looking Pro Sling speargun. Right: Eugene Franken with a Carnax speared near Durban, South Africa.

Spearfishing was not limited to fish. Here, a diver displays a 25-pound octopus wrestled from the depths of Horseshoe Bay, British Columbia.

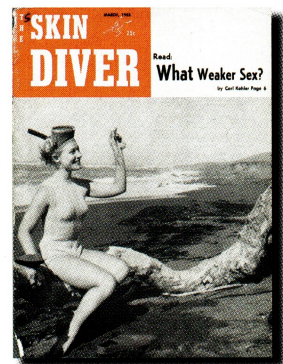


Photo: Jim Willis



Did *Skin Diver* encourage this wantonness or was it just the messenger? One has to visualize that the ocean, just invaded, was a figurative candy store to hungry kids, a sea of buffalo on the plains of frontier America. Hindsight of modern divers might see this as greed, but it more accurately be characterized as a product of the diver's soul: part hunter, part explorer.

WOMEN IN DIVING



ALTHOUGH characterized as an “all male sport,” in its early days, women have always had a place in diving. Granted, that place was not always based on present day ideals, but the 1955 photography issue did feature a woman on the cover with an underwater camera. And, inside the subsequent issues more and more women were showing up in the magazine’s pages, sometimes depicted as divers, sometimes as sex objects. The *Skin Diver* bathing beauty pages were called Miss Driftwood, leading to a popular feature called the Miss Beach Temptress Contest, which became Miss International Beach Temptress up through 1964 and showcased young women in revealing bathing suits posed by diving equipment.

Sex really reared its head in 1960 when the cover featured a well-endowed Fijian woman in a grass skirt and halter. Eyebrows

“It was like that with both Auxier and Blakeslee, good people and great divers, putting out a magazine that seemed stained with salt water and fish scales from their last dives.”



went up, and in many cases, magazines were returned. "What's going on?" wondered the editors. Looking closely, it appeared the halter had slipped down and the top half of a nipple was showing, or was it just a print shadow? Whatever it was, the "Puritans marched" on the magazine. Auxier and Blakeslee, straight-arrow family men, hastened to correct the impression. John Gaffney, who was *Skin Diver's* advertising salesman at the time (later to publish a rival magazine, *DIVE* and head-up the National Association of Skin Diving Stores) chortled and urged Jim and Chuck to put in a nude diver centerfold and sell millions of magazines.

The editors declined, but were still occasionally plagued by the reactions of conservative readers. At one time even libraries rejected the magazine because the title, *Skin Diver*, seemed too risqué.



photo/Skin Diver archives

Photo/Roberto Merlo



Top: A magazine story covering the International Beach Temptress contestants, a popular feature through 1964. **Left:** Miss Skin Diver hands out a trophy to the winner of a spearfishing competition. **This photo:** An early Roberto Merlo photo taken in the 1950s.

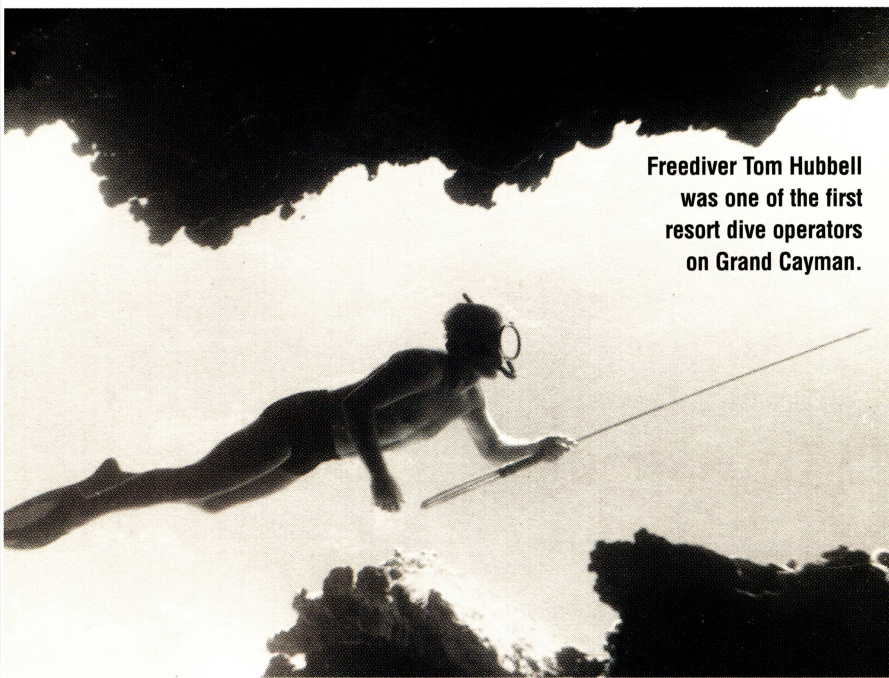
"...the original Skin Diver was the super glue that held the fraternity of divers together and defined it in those founding days."

the traveling **DIVE**

by **Bonnie J. Cardone**

I DIDN'T KNOW ANY DIVERS WHEN I SIGNED up for a certification class in 1973. I was unaware of dive clubs, dive stores and dive boats. My first glance at Skin Diver that year put stars in my eyes—I had no idea there were so many incredible places in the world to dive. I wanted to see them all!

Photo/Paul J. Tzimoulis



Freediver Tom Hubbell was one of the first resort dive operators on Grand Cayman.

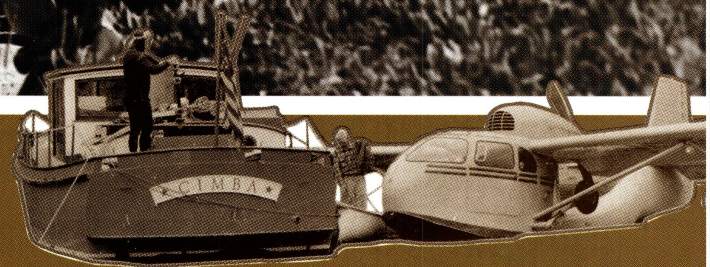


Photo/Julian P. Graham

**A View of Dive Travel from the
1970s Through Today**

R

Spearfishermen and their families gather on Del Monte Beach for the Central California Underwater Spearfishing Championships.



By 1973, *Skin Diver* had been giving divers their first glimpses of such exotic destinations as Tahiti, Cozumel, the Cayman Islands and Bonaire for 20 years. In the January 1967 issue (with Paul Tzimoulis taking over as publisher/editor from Jim Auxier) the table of contents featured a separate “travel” section for the first time. It had two destinations: Cay Sal in the Bahamas and Koko Head, Hawaii.

During the late 1960s and early 1970s a disparate group helped revolutionize the dive travel experience—Bob Soto in Grand Cayman, Capt. Don Stewart in Bonaire, Dick Birch in Andros, Bahamas, and Dewey Bergman and Carl Roessler at See & Sea Travel, who led trips to Cozumel among other destinations. They offered hotel and diving packages, the complete experience, which was, as you might expect, quite a bit different than today’s offerings. The accommodations were generally rustic and the boats generally floated, but the experience was sensational and



the idea of dive travel spread quickly.

My first warm water vacation was in October 1975, when I traveled to Lanai with members of my dive club, the Santa Monica Blue Fins. We chose Club Manukai because it was cheap. We’d read a *Skin Diver* article and knew what to expect.

At the time, Hawaii’s Lanai was known as the “Pineapple Isle” and was mainly a pineapple plantation. The streets were unpaved. The town had a very small hotel, a bowling alley and a theater that showed Zorro movies if enough people showed up. They rolled up the streets at 10:00 PM.

Ten of us shared a small three bedroom house, which had two bathrooms, one shower and a 30-gallon hot water tank. We slept in two rooms—men in one, women in the other—in bunkbeds. Since there were three men and five women, the married woman slept in the room with the guys.

Every morning we climbed onto a flatbed truck, rode down the dusty red dirt road to the harbor, and boarded open boats for two dives.

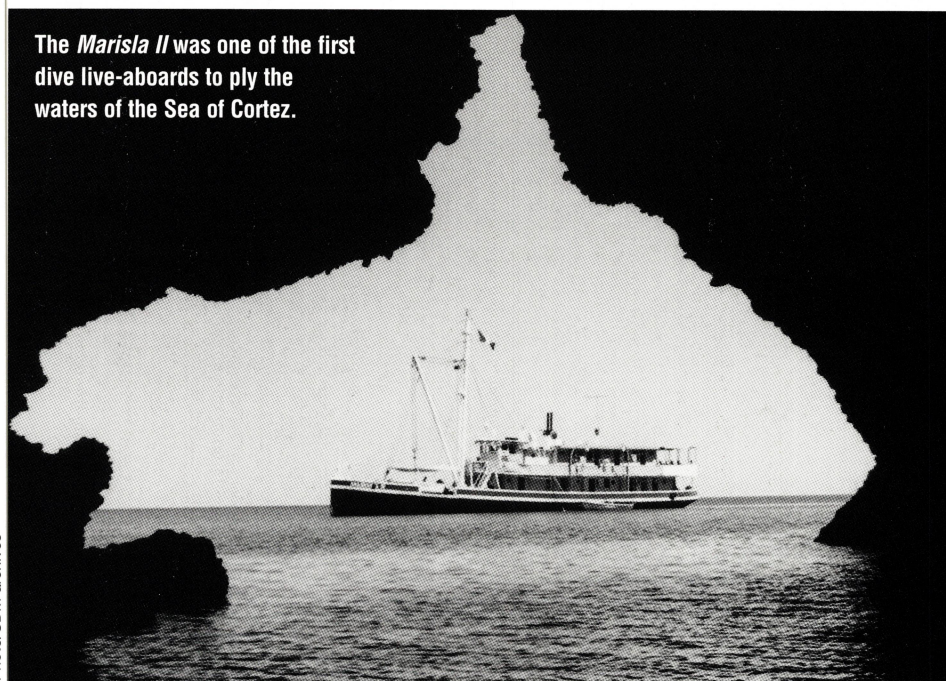


Above: Skin divers on ice. Top: The early days of diving in the Cayman Islands.

My first warm water vacation was in October 1975, when I traveled to Lanai.... We chose the Club Manulai...because it was cheap. We'd read a *Skin Diver* article and knew what to expect.

The *Marisla II* was one of the first dive live-aboards to ply the waters of the Sea of Cortez.

Photo/SDM archives



To keep us warm in the water, we wore one-quarter-inch wetsuit tops—black, with brass twistlock closing beavertails—over jeans. My BC was a state-of-the-art horsecollar (a SeaQuest, I think), yellow, with a then new feature—a power inflator. My mask was a high volume black silicone oval. Scubapro's rubber Jet Fins propelled me through the water.

Lunch—baloney sandwiches on white bread, a piece of fruit and a can of soda—was served on the boats during the surface interval, sitting in the sun on choppy seas. After the dives we waited in line to shower, trying not to use more than our share of hot water.

On the last day, we made a dive to 125 feet before flying back to Oahu on a small plane—I don't think it was pressurized—to catch a flight home. We did not know we could get bent by flying so soon after diving.

Club Manukai was a bargain. For \$37.50 a day, we got a bed, three meals, two dives and three gallons of hot water. I made my first two night dives on that Hawaiian vacation and

had a

wonderful time. It added more fuel to my desire to travel.

In 1979, I took my first real live-aboard trip, on Richard and Mary Lou Adcock's *Marisla II* (launched in 1930) in the Sea of Cortez. Her predecessor, the *Marisla I*, which began running trips in 1964, was the world's first

live-aboard.

The *Marisla II* was a state-of-the-art dive vessel at the time. A 121-foot-long, wide beamed former buoy tender in the Sacramento River, she wasn't air-conditioned. In the heat of the night, we lived for the hint of a breeze generated by a tiny revolving fan and any stray breath of air that might wander in the open door of our small cabin. There was a head and sink in each cabin, but the two showers were down on the main deck. To keep warm underwater (and protect against stinging organisms) we wore tights or leotards with T-shirts or sweatshirts.

Dive computers had not been invented, we used the tables, watches, depth gauges and SOS meters to keep us from getting bent. I made 28 dives in six days on my *Marisla* vacation and loved it.

EVOLUTION AND CHANGE

Diving changed quickly and considerably when the Baby Boomers discovered it in the 1980s. They took up the sport in incredible numbers, had plenty of money and were willing to spend it. The industry accommodated them with an explosion of goods and services. By the mid-1980s *Skin Diver* reflected the rapidly expanding world of dive travel with individual sections for Caribbean Diving, Live-aboard Diving, Pacific Diving and Local Diving. Local Diving, the mainstay during the early years, took a backseat.

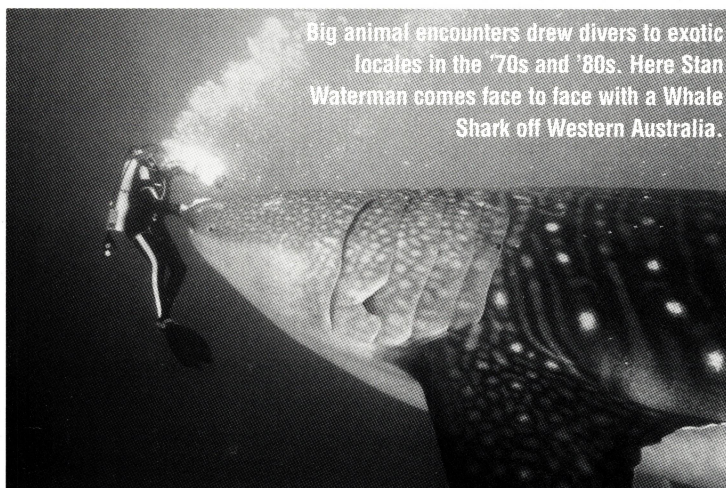
Boomers enjoyed travel, but they wanted to do it in style and comfort. Resorts became larger and more luxurious. The standard became, at the least, a hotel room (A/C, of course) with its own bathroom. Hot water was not rationed.

"Dedicated" was a watchword of the 1980s. It meant a resort had its own dive services: a dive shop where gear was sold and could be rented, with one or more boats and a staff that included at least one

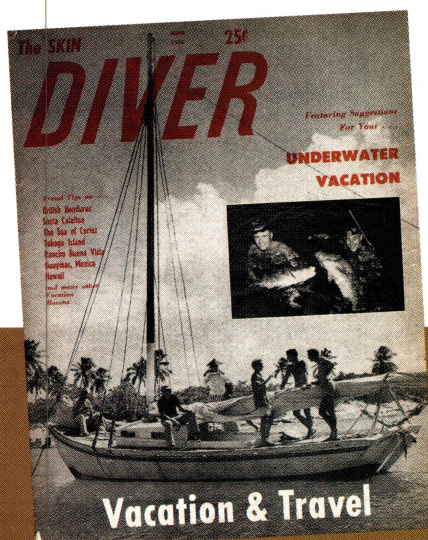
instructor offering a variety of courses. Many times there was also a photo shop and a photo pro. In addition, many resorts became self-contained, offering not only a really nice place to sleep and dive, but also a restaurant and perhaps evening entertainment.

Peter Hughes is generally credited with spearheading the upgrading of boats, compressors and equipment at larger resorts. After he did it at the Flamingo Beach Hotel on Bonaire, other resorts followed suit. Hughes also organized and streamlined dive operations. He thought diving should be easy, so his guests were given a number when they signed in,

Big animal encounters drew divers to exotic locales in the '70s and '80s. Here Stan Waterman comes face to face with a Whale Shark off Western Australia.



Photo/Marjorie Bank



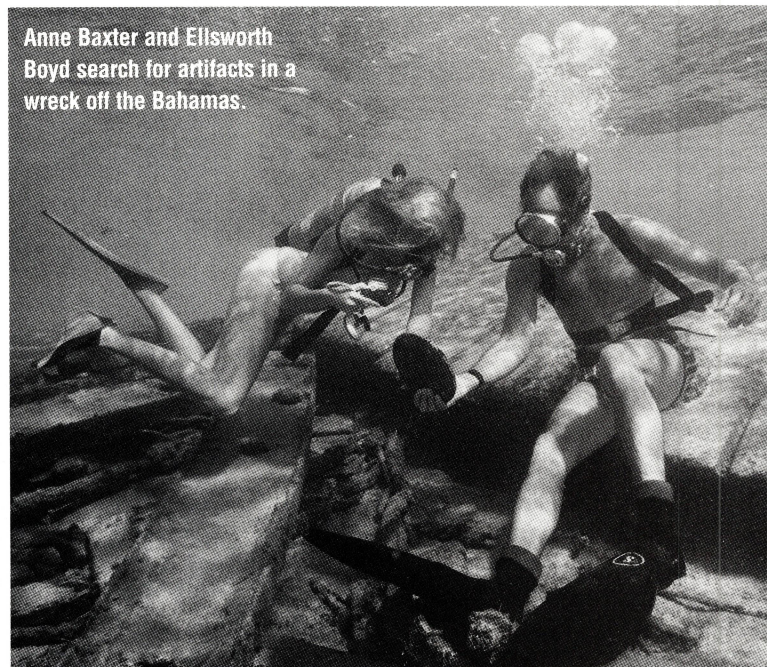
The first *Skin Diver* issue heralding the idea of dive travel.



Early visitors to Grand Cayman's George Town walked quiet dirt streets lined by wooden homes. You could rent a bicycle for \$1 a day.



A shore dive off Puerta Morena Cozumel.



Anne Baxter and Ellsworth Boyd search for artifacts in a wreck off the Bahamas.

Photo/Courtesy Ellsworth Boyd

In the January 1967 issue the table of contents featured a separate "Travel" section for the first time.



Tom Hubbell's 30-foot plywood catamaran, *The Tiki*, took divers off Seven Mile Beach, Grand Cayman.

Photo/Paul Tzimoulis

THE EVOLUTION OF BIG ANIMAL DIVES

Divers have long treasured close encounters with marine life, particularly the larger forms. Live-aboards in the Bahamas have offered snorkeling with Spotted Dolphins for more than two decades. Sandy, a wild Spotted Dolphin that interacted with divers off San Salvador Island, was featured in an SDM article in 1978. In the October 1980 issue, Howard Hall's article on giant Manta Rays off Socorro and Geri Murphy's article on a shark tagging expedition off California fought for space on the pages.

All of these encounters, however, were with wild animals in their natural surroundings. Sometimes the animals showed up, sometimes they didn't. In 1990, Grand Bahama's UNEX-SO went one step farther, introducing dives in open water with tame Bottlenose Dolphins. The Institute for Marine Sciences at Anthony's Key Resort on Roatan soon followed suit. Dolphin dives are still highly popular and are often booked months in advance.

Shark diving was another matter altogether. Most people both fear and are fascinated by sharks. Although sharks occur naturally in many areas frequented by divers, in the early years of our sport this was rarely mentioned for fear of scaring visitors away.

El Bajo was also the gathering place for huge schools of Hammerhead Sharks. It did not become widely known, however, until Howard Hall wrote a story about it, "Hammerheads by the Hundreds," in an early 1980s issue of SDM.

Shark feeding dives were occurring in the Bahamas in the early 1970s, and an article in

along with a gearbag and a place to put it. The dive boats, their destinations and departure times were listed on a big slate, with squares under them representing the number of spaces available for divers. Guests wrote their numbers under the name of the boat they wished to go out on. Their gear was put on the boat by the staff, so everything was ready to go when guests stepped onboard. Neal Watson made similar advances in the resorts he managed throughout the Bahamas; the age of dive resort franchise had begun.

Live-aboards opened up previously inaccessible areas. Today there are eleven vessels in Wayne Hasson's Aggressor Fleet; eight in Peter Hughes' Dancer Fleet and three in Mike Ball's Australian fleet. There were also numerous other live-aboards plying oceans worldwide, many promoted with unflagging enthusiasm by Carl Roessler's See & Sea Travel Service, Inc., one of the first dive travel agencies. Anywhere there was diving, it seemed, there was a boat to take you there.

Dive travel was booming in the '80s, and *Skin Diver* covers reflected the hotspots of the times; here it was the Cayman Islands.



This Haitian spearfisherman was on the cover of *Skin Diver* in May 1955.

Photo/Marcel Isy-Schwartz

LIVE- ABOARD D

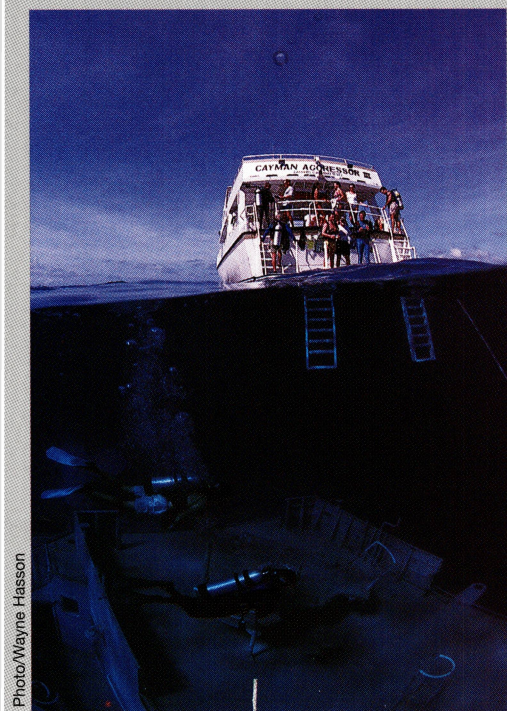
BY JIM CHURCH



Photo/Al Hornsby



Photo/Al Hornsby



Photo/Wayne Hasson



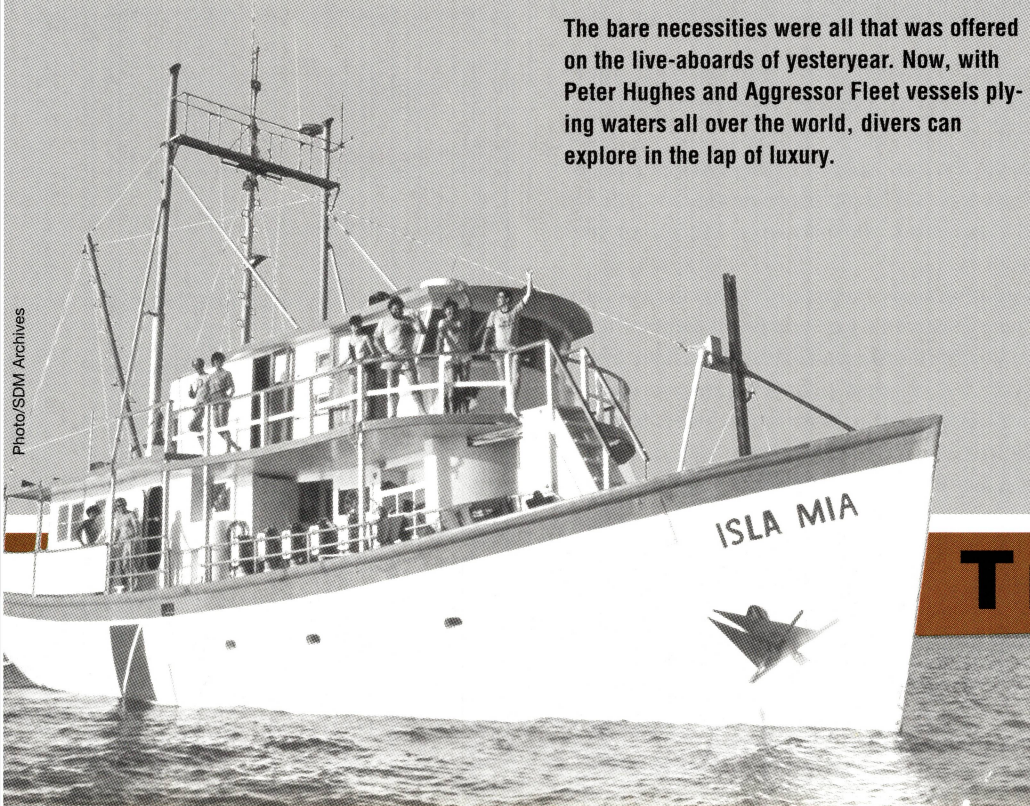
Photo/Wayne Hasson

The bare necessities were all that was offered on the live-aboards of yesteryear. Now, with Peter Hughes and Aggressor Fleet vessels plying waters all over the world, divers can explore in the lap of luxury.

FLOATING FORESIGHT—A REVOLUTIONARY TREND

In 1971, underwater photographer/author, Paul Humann, started a revolutionary trend in the dive travel business when he introduced and captained the Caribbean's first live-aboard dive boat, the *Cayman Diver*. By today's standards the *Cayman Diver's* accommodations were spartan: three double cabins and a bunkroom for six. She had one cold-water shower, two heads and a cramped galley with wooden bench seating.

The *Cayman Diver* was the ultimate Caribbean live-aboard from 1971 to 1980. She had an on-board compressor, a large dive deck



Photo/SDM Archives

THEN & NOW

LIVING

and a table for underwater cameras.

The *Cayman Diver* attracted divers who wanted to explore the remote areas of what was becoming one of the world's top dive destinations—the Cayman Islands. Divers relished the chance to get more than the two or three dives a day offered by shore-based operations.

THE SECOND REVOLUTION—LUXURY

The second Caribbean live-aboard revolution began in 1984, when explorer/photographer Wayne Hasson introduced the *Cayman Aggressor*, a 110-foot live-aboard dive boat.

Wayne had watched as the face of diving changed from the hunter to the dive traveler. The hardcore “I’ll sleep on the deck and eat spam from the can” divers were disappearing. The new breed of divers were more diverse, sophisticated and demanding. They wanted a wider variety of topside and underwater experiences during their vacations. And they got it. Previously unheard of stories of in-water encounters with wild dolphins, whales, sharks, rays and more filled the logbooks of divers and the pages of dive magazines.

Guests enjoyed private cabins, three heads and two showers. Meals were excellent, and the crew did their best to please the guests. The trend continued when Peter Hughes, another live-aboard pioneer, put his first live-aboard, *Sea Dancer*, in the water 10 years ago.

Today, live-aboards ply the seas from the Cayman Islands to the Bay Islands and Fiji, Palau and beyond. All modern live-aboard vessels now have on-board photo pros, camera rentals and E-6 color slide processing. Some have added a computer station for their guests.

Other pioneering live-aboards include Winston Mc Dermot’s *Little Cayman Diver*, which has served Little Cayman for about 23 years. In the South Pacific, Bilikiki Cruises’ *Bilikiki* and *Spirit of Solomons*, operating from historic Guadalcanal, have prowled the waters of this South Pacific outpost for many years.

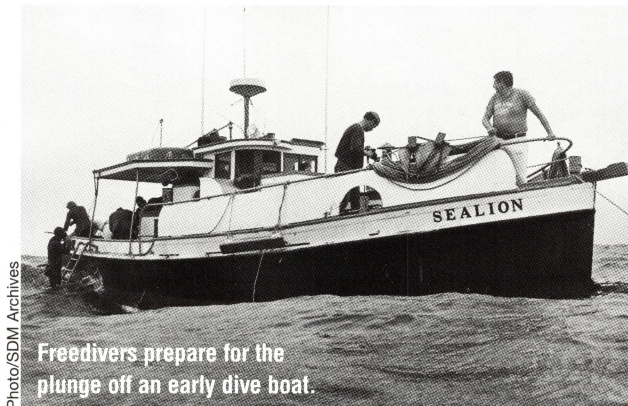
Today’s live-aboards are floating dive resorts. Not your daddy’s dive boat. 🐠

the September 1980 *Skin Diver* described the same thing—with a twist—in the Maldives. There, a woman handfed the sharks—without a bikini top.

In the 1980s and ’90s, *Skin Diver* introduced new destinations as they opened to divers, including Dominica and previously remote destinations such as Galapagos, Sipadan, Malaysia, Fiji, Indonesia, Papua New Guinea, Micronesia, Coco Island and Malpelo. There

were even dive expeditions to the Arctic and Antarctica.

While the 1980s represented massive growth as the boomers clamored for the water, the 1990s showed a rapidly shrinking globe. Travel to the exotic undersea worlds of Palau, the Solomon Islands and Thailand, as well as those mentioned above, has become almost commonplace by the year 2000. And, in the new paradigm of today’s world, *Skin Diver* can bring live dive adventures to its readers via the Internet. With



Photo/SDM Archives

Freedivers prepare for the plunge off an early dive boat.

online updates from writers on assignment, *Skin Diver* delivers exotic dive discoveries to readers daily, as they happen.

SKIN DIVER'S ROLE IN DIVE TRAVEL

Begun only eight years after the sport was created, and published continuously ever since, *Skin Diver* is an inadvertent but unequalled chronicler of dive history. You can see the sport unfold and grow through its pages.

The dive magazine with the next longest continuous years of publication is Canada’s *Diver* magazine with 26. As a source of information on every marine related subject in the past 50 years, *Skin Diver* has no peer. The magazine has reported on the latest trends, resorts, boats, destinations and equipment.

Skin Diver has been extremely influential in dive travel. First it was Paul Tzimoulis and then Bill Gleason who traveled constantly, checking out the changes in established dive destinations and helping develop new ones. Now, Al Hornsby spearheads a new team that continues to set trends and bring divers new destinations, adventures and unique underwater experiences.

So much has happened in diving in the past three decades it would take a book to document it; this article merely scratches the surface. To end it, here’s a bit of trivia: *Skin Diver* is largely responsible for the naming of dive sites. Early logbooks don’t list names; many sites didn’t have them. A majority of the world’s most popular dive sites were ultimately named because it was simply the best way to refer to them in *Skin Diver* articles. 🐠



Gear was minimal in the early days of diving.

Photo/Paul Tzimoulis



The year was 1957. I was lifeguarding in Ft. Lauderdale, Florida, one of a dozen Ocean City, Maryland Beach Patrol nomads who made the sunshine state pilgrimage in the late 1950s and early 1960s.

There weren't many lives to save in the calm waters off this party town that one of the guys dubbed, "Ft. Liquordale." The beach was the focal point of social activity, and pretty girls were as bountiful as seashells on a shoreline that stretched for more than five miles from Port Everglades to Lauderdale-By-The-Sea. But of all the girls I had seen in my six-month beach tenure, none were more beautiful nor more stunning than Bettie Page.

THE "LAST PINUP"

Meeting Bettie Page

By

Ellsworth
Boyd

Word had spread like wildfire that Ms. Page, one of America's most beloved pinup models, was on the beach at Las Olas Boulevard, a main artery that connected with A1A, the scenic route along the ocean. Just my luck! I had been at the Las Olas station the week before, but on that day I was about a half mile north.

By late afternoon, the beach was emptying when a lone figure came walking north along the water's edge, her striking bikini partially hidden by a thin, sleeveless, waist length, see-through garment unbuttoned down the front. You just didn't see outfits like this in the 1950s. It was as if this fantasy figure had stepped out of the pages of one of the Swedish magazines guys used to bring to school in the eighth grade.

On one hand, this was my lucky day, but on the other hand it wasn't.

This was just about the time Captain Frank Dane, chief honcho of the beach patrol, made his motorized run on the A1A. He made at least two runs a day to make sure all the lifeguards remained in their stations. I couldn't let him catch me leaving my post.

Bettie passed too far away for me to even say hello. All I could do was sigh and wish the chief would make his last rounds. "If wishes come true, this one's for you," I murmured out loud.

Moments later, the chief steered his car slowly through the moderate traffic, waving to me as he passed. Now, I only had to hope the chief made his return trip before Bettie returned at the water's edge. If he did, I would be, as we used to say, "in like Flynn." I could meet Bettie face to face.

My heart pounded as the moments passed. I eagerly glanced at the traffic, then to the water's edge, eyes glued to the north. At 4:00 PM, there were no signs of either Bettie or the chief. At 4:15, still nothing, and at 4:30, the beach and the road were almost empty. At 4:35 I finally saw her up the beach, almost a half-mile north. She must have walked at least four miles round trip. "Come on chief, where ARE you?" I groaned.

I didn't care anymore. Chief or no chief, I was determined to walk to

talk to her. If I got fired, so what! People would ask, "Why did you get fired?" and I would reply, "I got caught talking to Bettie Page."

Finally, the chief drove by and waved. I waved back, and when he was out of sight, I leapt from my station and raced to the water's edge. I think a little old lady sitting nearby thought I was making a rescue! Bettie was about 300 yards away so I stood directly in line with her, hoping she'd pass real close.

I'm not exactly sure how the conversation went, but I smiled, and she smiled back, and I blurted, "How far did you walk?"

"About two miles," she said. I introduced myself. She did the same. I told her I knew who she was. I tried to be cool. She smiled.

Bettie was no different than any other friendly tourist, chatting amicably about everyday things. She was so nice, the butterflies left my stomach, and soon I was telling her about my best friend, Jim Kelly, also a lifeguard, and how we liked to take friends snorkeling on a pretty coral reef near shore in Lauderdale-By-The-Sea.

To this day, I can't believe my brashness when I gushed, "Would you like to go snorkeling with us tomorrow? It's our day off." To my amazement, she smiled and said, "I'd love to! What time?"

The rest is history. We packed some extra snorkeling gear, picked up Bettie and took her to Lauderdale-By-The-Sea where the water was warm and clear. She took to the water with ease. When we reached the coral reef, about 400 yards offshore, schools of brightly colored tropical fish greeted us. It wasn't easy watching the marine life while



"Oh sure," she said. "Here, I'll pose for you." With that, she put a swim mask on her head, grabbed some gear and modeled for us in her home-spun bikini. Kelly and I thought we had died and gone to heaven!

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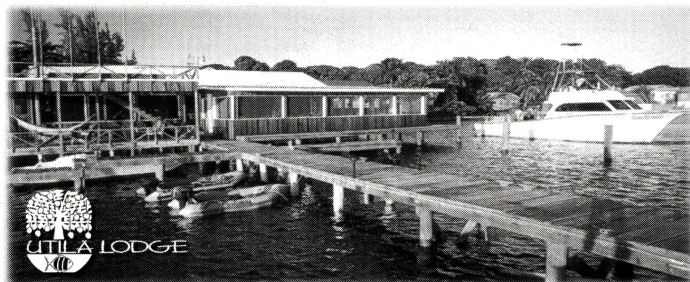
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rubbing elbows with our beautiful dive buddy. Fascinated by the silent world, Bettie held her breath and dove 15 feet to the bottom where she tried to pet an angelfish.

After two hours of drifting with the current, I felt a chill, but never heard a complaint from the lovely mermaid. When we reached the shore, I asked Bettie if I might shoot some photos and write a short article about our dive for *Skin Diver*, a publication I read from cover to cover and yearned to write for.

"Oh sure," she said. "Here, I'll pose for you." With that, she put a swim mask on her head, grabbed some gear and modeled for us in her home-spun bikini. Kelly and I thought we had died and gone to heaven!

Bettie was leaving the next day for Miami to see a friend and said it was doubtful she would return to Ft. Lauderdale, but if she did get back she would like to learn to scuba dive. She never returned, but I wrote my piece for *Skin Diver* (June, 1958) the first of more than 200 articles I published in the magazine throughout the years. I thank Bettie for this. She was my inspiration and directly responsible for my first big break.

Thirty-eight years later, in 1995, a friend of mine told me about a Bettie Page fan club called, Bettie Scouts, started by Steve Brewster, a devotee in Kansas City. Through Brewster, I sent Bettie—now living in California—a birthday card and a small gift from the sea. Bettie responded with a lovely letter, fondly recalling our trip to the coral reef, saying it inspired her to learn to scuba dive when she went to Miami. We still correspond.

In 1996, a producer from Entertainment Television (E!TV) asked if she might interview me for "True Hollywood Story: Bettie Page," a two-hour special on the life of the famous pinup model. It wasn't until this was aired that I learned my photos were the last pinup poses taken of Bettie before she retired. She left modeling and got married after visiting Miami.

Now 76, Bettie is in good health and loves to watch old movies and travel. Some of her favorite television shows are ones depicting life beneath the sea, a place she fell in love with after our snorkeling venture years ago.

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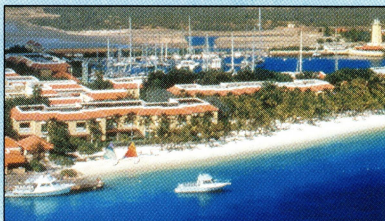
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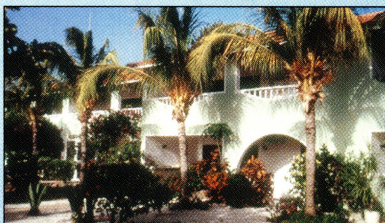
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Dive Industry Ensures Fish Feeding in Florida Remains Legal

The Diving Equipment and Marketing Association (DEMA) announced a huge victory that took place on September 7, 2000, when the Florida Fish and Wildlife Conservation Commission voted unanimously to not enact the rule making process to ban fish feeding by divers in Florida Waters. The commission directed the dive industry to self-regulate and develop industry guidelines for the activity, according to Regina Franklin, executive director of DEMA.

"We're thrilled that the dive community responded to our call to action, and came out in full force to support fish feeding," said Franklin. "The industry as a whole recognizes the significant value of interactive marine experiences in educating individuals regarding conservation and the underwater world. This issue united the dive industry and showed that there was no proof that fish feeding is dangerous or harmful to the environment."

The vote on the suspension came after several hours of testimony from divers who traveled from all over the state to show their opposition to the proposed ban. Hundreds of divers and industry leaders attended the meeting in an unprecedented show of opposition to government regulation of the dive industry, while only five people testified in favor of the ban, according to John Stewart, president of Dive Marketing International.

"In February, the commission voted unanimously to consider a ban on the feeding of marine life in Florida," said Stewart. "This amazing turnaround was the result of an extraordinary effort by the dive industry, and DEMA is to be congratulated for stepping up to the plate to organize and fund such an undertaking."

Along with Stewart, leading the turnaround of the decision was Tallahassee attorney and PADI's Florida Legislative consultant, Bob Harris. Following the February decision, both Stewart and Harris were hired by DEMA to spearhead the

effort to overturn the ban.

Harris commented, "In the 15 years that I have been representing PADI in Florida legislative issues, I have never seen an issue of greater importance to the diving community than this one. Hats off to the divers who attended the Deland meeting. They were the

heroes that made all the difference."

DEMA is a global, not-for-profit organization comprised of more than 1,000 companies and organizations. For additional information on DEMA, contact [formula] PR at (619) 234-0345 or email schneider@formulapr.com.

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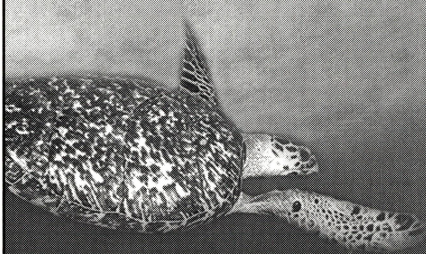
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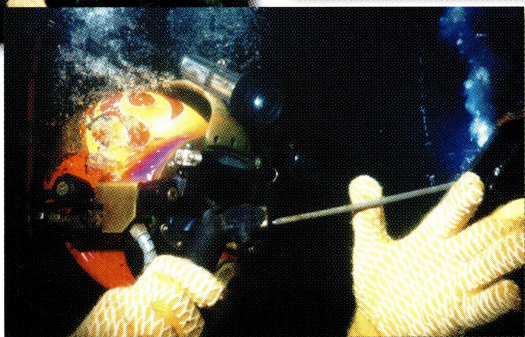


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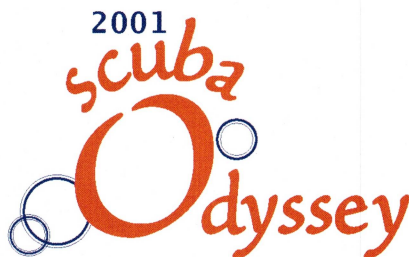
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Mexico Dive Guide

The distance between Mexico's diving coasts is less than 1,500 miles, but spans an entire world of diving opportunities. The waters off Baja are a playground for big animals—whales, Mantas, hammerheads—while the warm currents that caress the Yucatan feed a rich coral garden, home to dolphins, rays and fish galore.

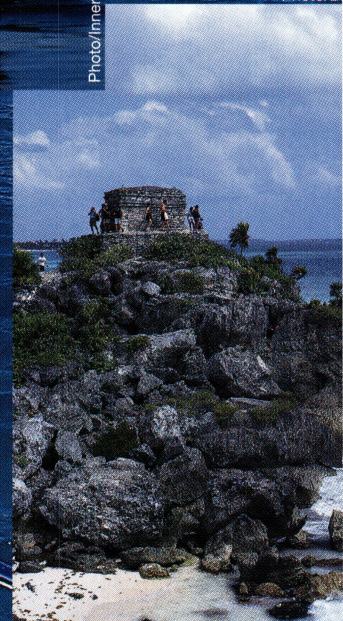


Photo/Eric Hanquien

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Expecting the Unexpected in Baja

Baja is at California's back door. From Los Angeles, a two-hour flight will put a visitor in Los Cabos for anything from a weekend getaway to a full-fledged diving vacation. But there's more to Baja than Cabo. La Paz, the East Cape, Loreto, and the Revillagigedos Islands are magical names, not only to the veteran Baja traveler, but to divers all over the world who seek opportunities to swim with big animals. It's a place to encounter Manta Rays, schooling hammerheads, Whale Sharks and other giants that all divers dream about. Nothing is guaranteed in nature, but the chance of meeting one of these magnificent creatures is significant.

• BY ERIC HANAUER

Baja offers even more. To the fisherman it's an opportunity to land the big ones: marlin, Dorado and tuna. To the off-roader it's a challenging landscape of four-wheel tracks winding through mountain and desert.

Here are some things you might not know. It's also one of the greenest deserts on earth, with outrageous wildflowers, bizarre boojum trees in boulder fields and ancient cave paintings. Offshore there are pods of Orcas and migrating whales ranging from Pilots to Grays, Humpbacks to Blue Whales.

The big critters sometimes overshadow the wealth of fishes on Baja's rocky reefs. The Sea of Cortez is called "the world's largest fish trap," because its plankton-rich waters form the base of a food chain that continues to

proliferate despite man's interference. And it's all accessible via a sophisticated infrastructure of transportation, hotels, dive centers and boats that provide easy access to places that once required full-scale expeditions.

Non-diving spouses or friends won't be bored while you are playing underwater. A full array of watersports offered at most beachfront resorts includes windsurfing, parasailing, water skiing and jet skiing. Or they can explore the desert aboard transportation ranging from ATVs to burros. They'll see impressive stands of cactus, elephant trees, cirio and yucca. Hidden in the back country are Indian cave paintings and fossils.

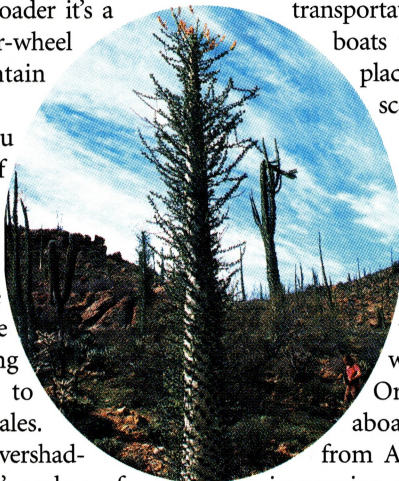
Travelers who seek a more sedentary experience

will enjoy just relaxing around the hotel pool, lying on the beach, shopping, or catching current movies and sports events via satellite TV. And dining is excellent, especially in tourist centers where the fare ranges from local Mexican specialties to fresh seafood, Italian, Chinese and French cuisine.

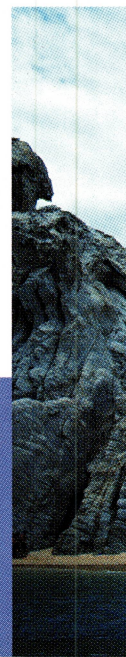
La Paz

La Paz captures the warmth and charm of authentic Mexico. First settled over 450 years ago, this bustling city of 160,000 is the commercial center of southern Baja with two colleges, a major port, industries and offices. When the setting sun turns the sky to crimson, you'll realize why its name means "the peace."

The Malecón, a street that follows the waterfront, is the tourist strip where hotels, shops and restaurants



Mexico Dive Guide



vie for your interest and your dollars. A couple of blocks inland the tree-shaded streets of residential districts convey an entirely different personality.

Diving from La Paz centers around the offshore islands of Cerralvo and Espiritu Santo and their outlying reefs. Most sites are northwest of the city, with the port of Pichilingue the nearest embarkation point.

The region's most famous dive site is El Bajo, a series of three submerged pinnacles that are renown for pelagic action, especially schooling hammerhead sharks. These sharks are extremely wary and retreat from bubbles, so it takes stealth to get close. No matter how many dives you've made here, it's wise to follow the guides because they'll know what's out there on a given day. Look into the blue for pelagic fish, including tuna, Amberjacks, Dorado, Wahoo and Yellowtail. Marlin, Whale Sharks, Manta Rays and several kinds of whales are sometimes seen here.

Boats usually anchor at the central 50-foot pinnacle, the shallowest of the three, connected by a ridge running north to south. Drop-offs on all sides continue into extremely deep water. But there is lots to see at 80 feet and shallower. Coral heads, gorgonians and colorful anemones decorate the pinnacles. Reef fish, including angels, wrasses, puffers, and butterflyfish swarm around the rocks. Look in crevices for Panamic Green Morays and large Dog Snappers.

Most articles about Baja (including this one) discuss dives with big animals. Consequently some people expect too much, and are disappointed if they don't see big fish or marine mammals on every dive. But there is one site that absolutely guarantees marine mammal encounters: Los Islotes. A tiny island about one-half mile north of Isla

Partida, it is home to the Nirvana of sea lion encounters. Most action occurs in 15 feet or less, making for long, happy dives.

In spring, the previous year's pups dart around like swallows while the females keep a watchful eye in the distance. Big bulls show little interest in divers. But in summer, when the newborns are still helpless, the bulls become protective, steering divers away from the nursing females by swimming between them and their families. If you venture too close, they may charge. These bulls weigh about half a ton, so in a collision you would come out a distant second. Fortunately, they are usually bluffing and veer off at the last moment.

La Paz also has an outstanding shipwreck, the *Salvatierra*, a 320-foot auto ferry that sank in 1976 after hitting a rock in San Lorenzo Channel. She lies on a sand bottom at 60 feet, overgrown with algae and yellow gorgonian bushes. When she went down, the ship was carrying no regular passengers, only trucks and drivers, the crew and volatile fuel products. Everybody was rescued; the fuel and some of the trucks were salvaged. The remaining ones lie mostly upside down, with tires still inflated, looking like the legs of dead animals. The wreck is alive with fishes. Butterflyfishes, Cortez Angels and Sergeant Majors flit about the hull. You may see goatfish or a colony of Garden Eels, common throughout Baja in sandy environments.

East Cape

The East Cape is Baja the way it used to be. Here are miles of pristine beaches with secluded resort hotels that are accessed over dirt roads. This region extends from Punta Arena in the north to Bahia Los Frailes. Isla Cerralvo and Gorda Banks are acces-

sible when you're based here, or if you're staying in Los Cabos, operators can take you as far as Cabo Pulmo.

Cabo Pulmo is often defined as the only living coral reef on North America's west coast. The coral grows in clumps on the rocky substrate over a series of four long reefs that parallel the shoreline at depths from 30 to 70 feet. But don't just go there for the coral; go for the fish, too.

Diving Cabo Pulmo is like swimming in an aquarium, with a cast that includes schooling grunts and snappers, angelfishes, Sergeant Majors, puffers and butterflyfishes. When there's a strong current, you just fly with it and get caught up in the frenzy. The outermost reef, half-mile long El Bajo, offers the most action. You'll drift over canyons and crevices, occasionally broken up by sand patches. Look into holes for Dog Snappers, lobsters, Nurse Sharks and big groupers.

South of Cabo Pulmo is Los Frailes Bay, the entrance to a deep submarine canyon that drops to over 700 feet. Beginning about 30 yards offshore, it can be dived from the beach or by boat. Along the north wall at 40 feet is a series of boulders forming habitats for lobsters, parrotfish, eels and puffers. Occasionally, big critters swim up out of the canyon, such as schooling hammerheads, tuna, Dorado, or Wahoo.

All of Cabo Pulmo Bay, including Los Frailes, constitutes a Mexican marine park and sanctuary. Taking of any marine life is prohibited. Live-aboard boats must anchor outside the reefs and shuttle divers in by *panga*. Rules are strictly enforced by local residents.

Baja's big stars, like Orcas and Mantas, await divers off a rugged and beautiful desert coast.

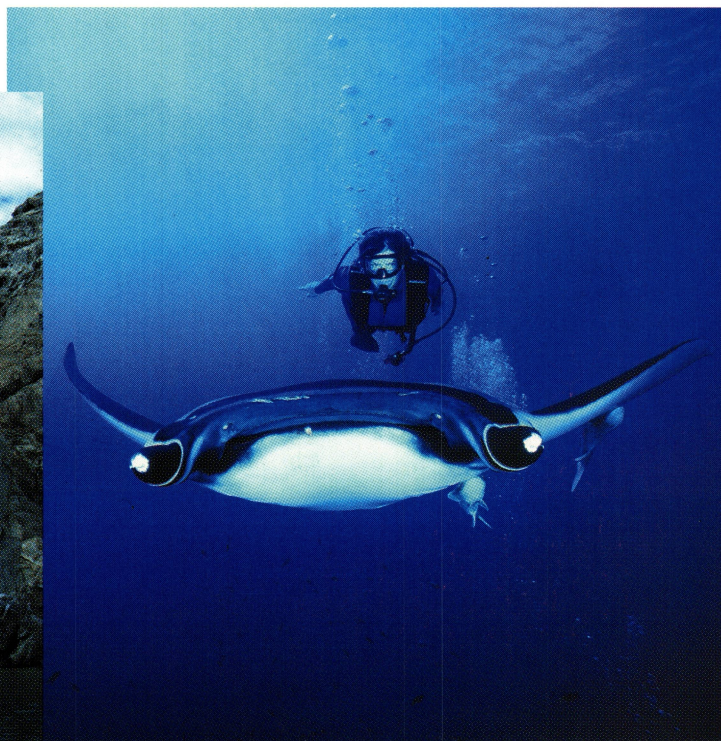
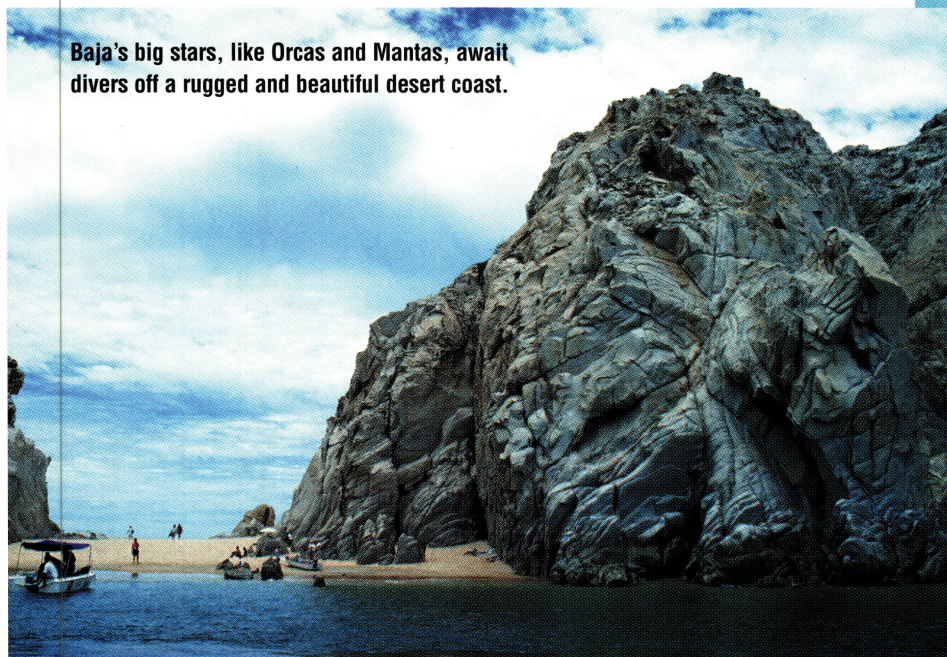




photo by Eric Hanauer

Sea lions are a popular Baja attraction.

Los Cabos

Los Cabos is Baja's prime tourist destination, encompassing the cities of Cabo San Lucas and San Jose del Cabo, as well as the corridor connecting them. Most of the coastal strip is lined by hotels, resorts and time-shares. Downtown Cabo is the bright light district, with shops and watering holes appealing to all tastes and bank accounts. They range from boisterous bars to fine restaurants. There are a number of dive operators in town.

Located eight miles off San Jose del Cabo, Gorda Banks is one of those high-energy places where anything can happen. The top of the seamount is 100 to 130 feet deep, but you won't have to go that far because the best action is higher up in the water column.

Pelagic creatures are most active at times of strong current, so conditions here usually call for drift diving. Whirlpools of jacks and snappers, scores of schooling hammerheads, solitary Bull Sharks or Manta Rays, or even Whale Sharks are encountered here by fortunate divers.

On the deep reefs, rocks are covered with colorful sea fans and cup corals. Creatures of temperate waters, such as the California Sheephead, share the environment with the local wrasse, the *Vieja* (old lady fish). The Mexican Blue Lobster can be seen alongside the California Spiny Lobster. The beautiful Scythemark Butterflyfish, which prefers deep water, is found here as well as the Clarion Angelfish, usually rare in the Sea of Cortez.

The Canyon, called Anegada by locals, is the showpiece of San Lucas Bay. This deep submarine trench parallels the bay's western shoreline, its rocky walls dropping into hundreds of feet of water. Practically anything could rise up out of the depths, from huge groupers to sea turtles or Manta Rays. I once found a huge, pink gelatinous tube over six feet long that turned out to be a rare Colonial Tunicate.

Beginning at Shepherd's Rock, the sand bottom slopes to the rocky lip of the canyon at about 60 feet. In some places the sand is channeled downward, finally tumbling over the rocks like a waterfall. Reported at few other places in the world, sandfalls are found in several locations throughout the canyon. The shallowest is at 90 feet, below Shepherd's Rock. Along the granite walls are outcrops

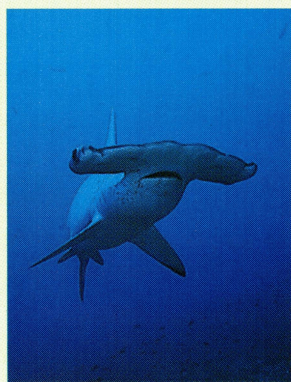
Mexico Dive Guide

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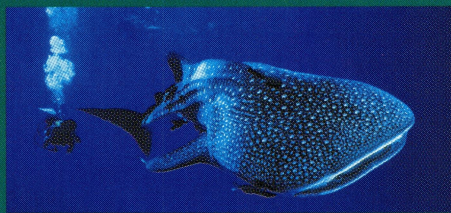
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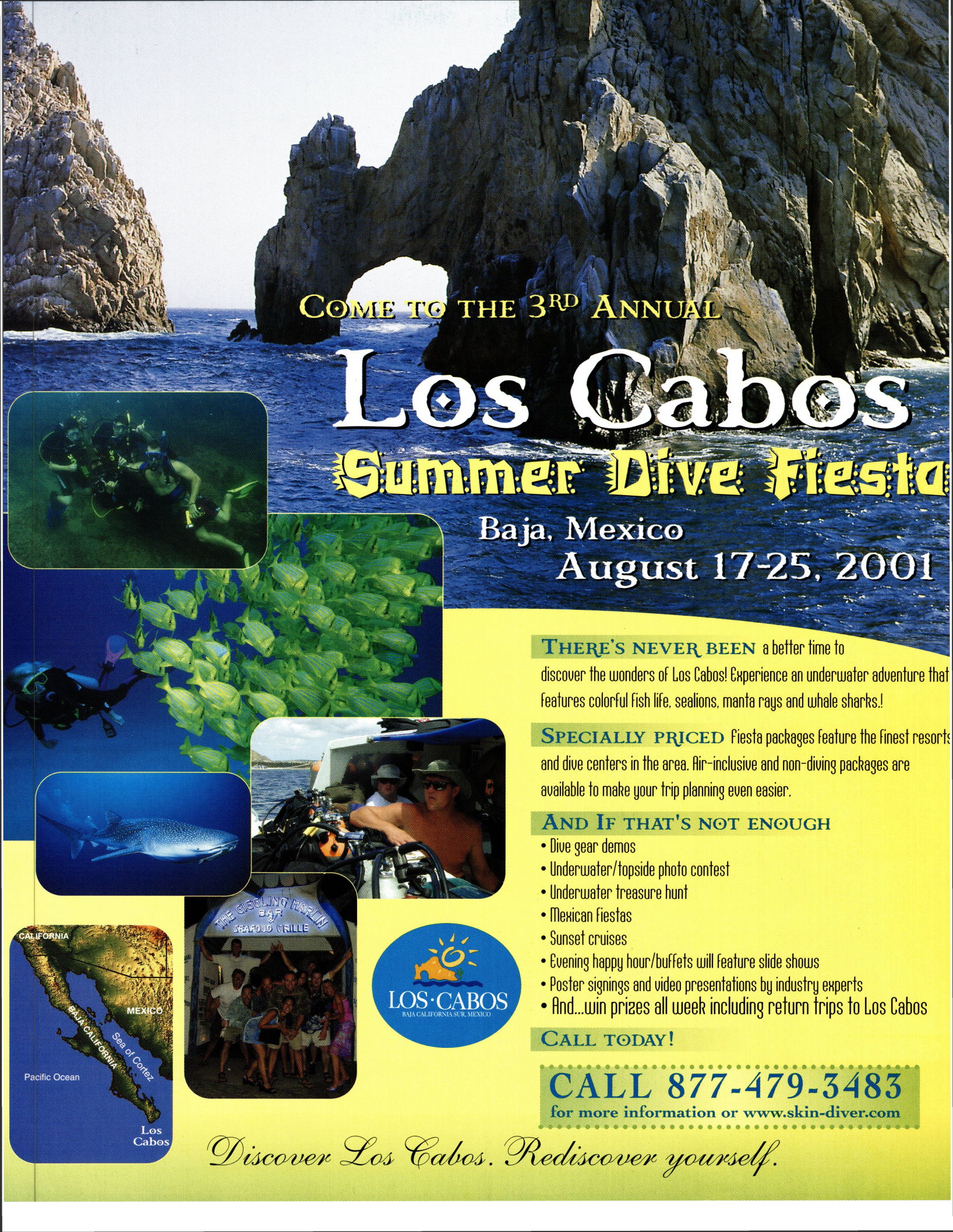
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Dolphin experiences are available in Cozumel, along with incredible drift dives in gin clear water over vibrant reefs.

Photo by Norbert Wu

and crevices that house lobsters, octopus and tropical fishes. Visibility may range from a crystalline 100 feet to a dark, spooky 15 feet during periodic plankton blooms. During the safety stop, watch the sand bottom for

razorfishes, which dive into the sand and "swim" underneath.

Revillagigedos Islands

Distance is one factor that's kept the Revillagigedos Islands pristine. It's an archipelago of four islands beginning 220 miles south of Cabo San Lucas, a 22-hour trip by live-aboard. They extend an additional 200 miles from the nearest, San Benedicto, to the furthest, Clarion. The only human inhabitants are a contingent of Mexican sailors on Socorro.

On two previous trips aboard the *Solmar V*, I swam with dolphins, hammerheads, Silky Sharks, tunas and even a Tiger Shark, but everything was overshadowed by the Mantas of San Benedicto. Mantas are magical for their size, their grace and the beauty of their simple, triangular form. At San Benedicto they invite human interaction, evoking emotions of awe, humility and joy in the lucky

participants.

The Boiler is a Manta cleaning station. When you enter the water, there may be one or two animals, and within five minutes there will be half a dozen vying for your attention and for the feel of your bubbles on their underside. As they glide effortlessly, accompanied by an entourage of remoras and cleaner fish, divers crowd all around: above, below, alongside. Some divers just watch, some record the scene on film or video, others reach out and stroke the Mantas as they cruise by.

On a one-week trip you'll also visit Socorro Island, where schooling hammerheads, Silky Sharks and Tiger Sharks are common. If the weather is calm, you'll go to Roca Partida, a pinnacle rising from mid ocean that attracts a wealth of pelagics. Although the familiar Baja cast of characters dominates the reefs, you'll also see Leather Bass, lots of Clarion Angels, and a few more of the Panamic species that range as far as Cocos and the Galapagos.

Just when you think you've seen it all, Baja will amaze you with something totally unexpected. It's that promise of new experiences that keeps divers coming back.



Photo by Walt Stearns

Finding a Field of Dreams in the Yucatan

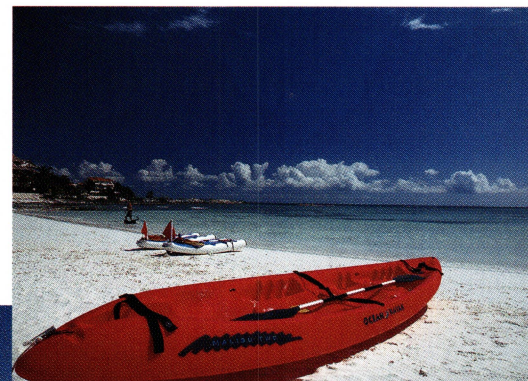
Jutting into the western Caribbean Sea, the Yucatan Peninsula's far northeastern reaches are home to one of the most spectacular and unique ecosystems on the planet. This area was itself once a vast ancient reef, but dropping sea levels, time and pressure have transformed the area into a limestone shelf engulfed by jungle and pock marked with fresh water cenotes. Running along the eastern edge of the Mexican state of Quintana Roo, the stretch of coastal land from Cancun to the Belize border including Cozumel, Riviera Maya, and Costa Maya, is a geological, biological and cultural wonder.

BY BRAD DOANE

Cozumel

Lying just off the Yucatan is Isla de Cozumel. A 30 by 12 mile land mass, it sits long ways in the north-moving current and is just the dry portion of a geographic formation that unfolds, rising and dropping again and again, until finally disappearing into the depths.

Divers have been making pilgrimages to Cozumel since the 1960s. They come to witness the effects of the constant current that sweeps around the island. It has transformed what might be a normal, text book reef into a blissfully twisted and slightly off-center landscape of richly colored sponges and corals. Corals are twisted, bent and forced into fantastical shapes. Divers do not simply dive



Photo/Brad Doane



Leaning in closest to the diver is *Skin Diver* "Technifacts" writer, E.R. Cross. Next to him is filmmaker and humorist Dick Anderson. Leaning in closest to the diver is *Skin Diver* "Technifacts" writer, E.R. Cross. Next to him is filmmaker and humorist Dick Anderson.

Cozumel's Top 16 Dive Sites

N=Novice, I=Intermediate, A=Advanced

1 PARADISE REEF N

Abundant marine life. Excellent for snorkelers. Good chance of finding Cozumel's Splendid Toadfish. Popular night dive. (Max 45')

2 BALONES OF CHANKANAAB N

Series of balloon-shaped coral heads. Colorful, abundant marine life, lobster and crab. (60-70')

3 TORMENTOS REEF I

Colorful coral heads teeming with marine life including eels and angelfish. (40-70')

4 YUCAB REEF N

Dense reef full of abundant color and marine life including grouper, eels, lobster & crab. (Max 60')

5 PUNTA TUNICH I

Discover friendly grouper, lobster, crabs and eels while drifting along a vibrant, colorful reef. (Best 40-60')

6 SAN FRANCISCO REEF I

Shallowest wall dive. Abundant marine life. Exciting, not-to-be-missed dive. (Best 35-50')

7 SANTA MARIA REEF I

Beautiful diving with large schools of angelfish. (40-60')

8 SANTA ROSA REEF I

Impressive sponges, colorful overhangs. Dive-master can show you great, safe tunnels. (Min 50')

9 PASO DE CEDRAL I

Spectacular cavern, tunnel & swim-through dive with abundant marine life in a dense, colorful setting. (Max 60')

10 CEDRAL WALL I

Fairly flat but brimming with color & life. Cover a lot of reef in the normally strong current. (50-90')

11 LITTLE CAVES N

Labyrinth of colorful canyons, deep ravines and narrow crevices. (Best 50-70')

12 BIG HORSESHOE I

Giant coral heads come within 20' of surface. (Max 100')

13 PALANCAR GARDENS N

Beautiful dive with lots of color. Many nice caverns. (Best 40-70')

14 PALANCAR CAVES N

Beautiful canyons, tunnels and caves alive with abundant marine life. (Best 60-90')

15 COLUMBIA REEF I

Coral pinnacles tower over an impressive drop-off. Frequently see big marine life. (Best 60-80')

16 PUNTA SUR A

Incredible topography and huge caverns. Home of the widely acclaimed "Devil's Throat." (Min 90')

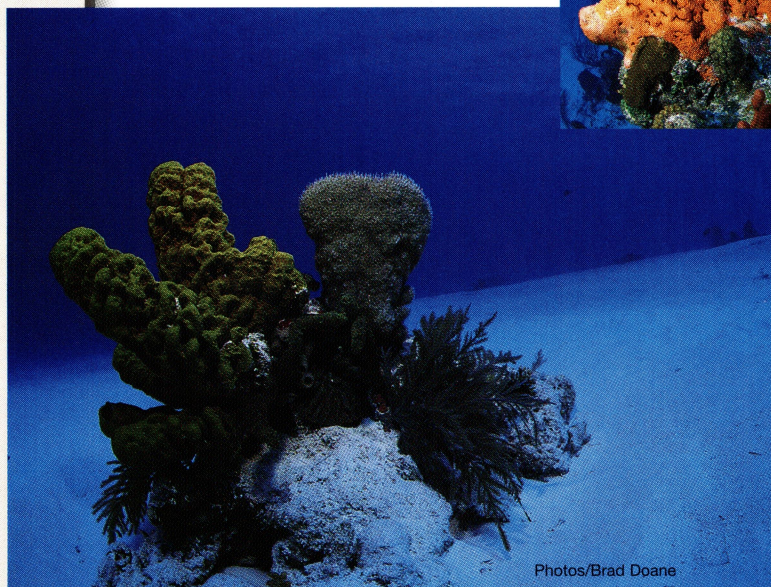
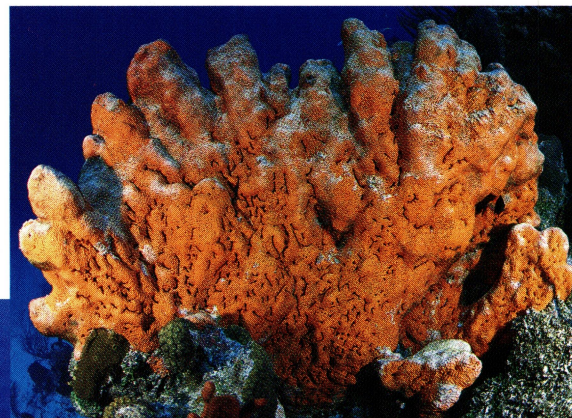
these reefs, they ride over them. Sometimes they even fly. The current varies from site to site and can be as gentle as a mother's nudge or as fierce as a siblings' quarrel.

Palancar Reef, on the island's southwest side, is perhaps the most notable area for visiting divers. Actually divided into many different dive sites, it is sometimes referred to as the Grand Canyon of the Caribbean. Sites include: Palancar Caves, Palancar Deep, Little and Big Horseshoe and Palancar Gardens. Most diving can be done between 60 and 80 feet, with some sites significantly shallower or deeper. And, since drift diving is the norm in Cozumel, divers are encouraged to carry surface signaling devices.

Generally considered number two

beaches. It is a destination well suited to families and group travel, offering the proverbial something for everyone.

Added to these staples of Cozumel adventure is a relatively new attraction, a dolphin encounter offered by Dolphin Discovery in Chankanaab Park. After a brief orientation and instruction session, divers can don their gear and drop into 25 feet of crystal clear water and



Photos/Brad Doane

frolic with dolphins, receiving a "dolphin kiss" and gently cradling these amazing animals.

Cancun

The bird's eye view of Cancun says it all. Sitting prominently on the northeastern tip of the Yucatan, Cancun's Laguna Nichupte is surrounded by over 14 miles of brilliant white beaches, which are protected by a large reef system. Cancun is one of the

among Cozumel dive sites is Santa Rosa Wall. Pockmarked with caves and swim-throughs, a ridge at 80 feet gives way to a sloping drop-off. Other sites, such as San Francisco Wall, with dramatic undercuts and bountiful sea fans and the shallower Paradise Reef, with its wealth of macro life such as sea horses and toadfish, round out the island's aquatic experience.

Cozumel's dive infrastructure is well developed, well equipped and well run. Accommodations and dining range from luxurious to basic, but the diving is always an adventure. Vacationers can also find energetic night life or, if they prefer, relaxing tropical

world's true watersports capitals. Diving, snorkeling, water-skiing, wind surfing, sailing, fishing...you name it, they've got it. The number one tourist destination in the western hemisphere, the beaches bristle with hotels and resorts of every imaginable size, shape and style. With endless shops, restaurants, bars and nightclubs, Cancun is the Las Vegas of Mexico—you can do everything or nothing at all. Surrounded by one of Mexico's underwater national parks, divers can swim with large Nurse Sharks and barracuda, or swim through tunnels in the reef. The water is warm and clear and most dive sites are within minutes of the beaches.

Devil's Throat
Dive Guide



The Yucatan's thick Jungle hides an incredible world of cenotes and offers a great balance to the colorful coral reefs offshore.

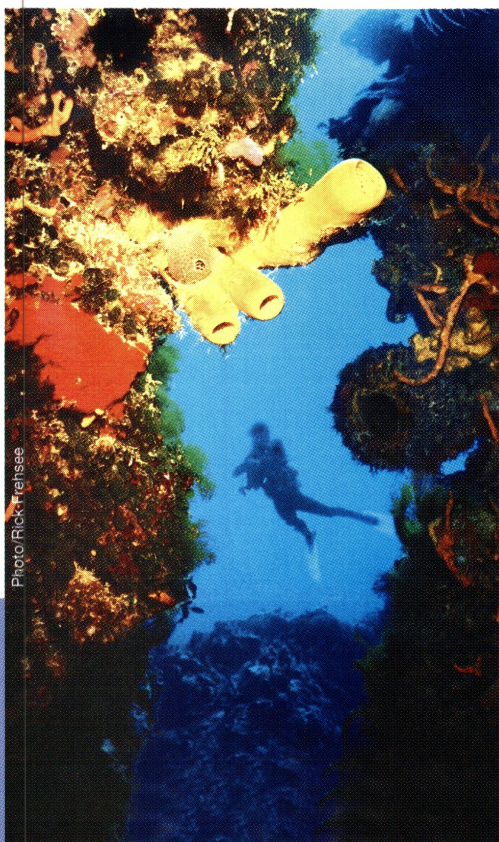
Photo/Brad Doane

Riviera Maya

To the south, the Riviera Maya spans 60 miles of pristine coastline and is replete with magnificent beaches, bays, jungles and small towns. The second largest reef system in the world, the Great Maya Reef, lies just offshore and runs south along the coast. The karstic jungle floor is riddled with underground rivers and cenotes that flow

gently into the sea. Some of the larger and better-known towns along the Riviera Maya are Playa del Carmen, Puerto Aventuras, Akumal and Tulum.

Once a sleepy little fishing village, Playa del Carmen is now the main ferry gateway to the island of Cozumel and offers diving and snorkeling on nearby reefs as well as an



Photo/Rick Freisee

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energetic atmosphere. Five minutes down the road is the eco-archaeological park XCARET, where visitors can float through underground rivers, swim with dolphins, dive or visit archaeological sites, among various other natural and cultural activities. Puerto Aventuras is a small marina development supporting a fleet of diving and fishing boats that run to nearby reefs. Dive shops here also run daily trips to dive in freshwater cenotes and cave systems.

Akumal

Translated the “place of the turtles,” Akumal supports a highly diverse ecosystem and is a major nesting beach for endangered Loggerhead and Green Sea Turtles. Bays and

Best Dive

lagoons host turtle grass beds and coral reefs, and Yal Ku lagoon is fed by underground rivers that mix with seawater to create the ideal habitat for juvenile fish nurseries. Ukana is the local ecological center in Akumal that performs research and offers workshops about the local environment. Just south is Aventuras Akumal, a major outpost for those wishing to explore the magnificent underground rivers or one of the crystal clear cenotes. The cenotes are sinkholes in the jungle floor leading to the underground cave systems and offer incredible snorkeling and diving without the need for prior cave diving training or experience.

Tulum

Tulum offers a variety of activities, but is best known for its 13th century Mayan ruins built upon a seaside cliff. The only major archaeological site directly on the coast, Tulum still stands like a sentinel over the Caribbean Sea. The ruins are within easy reach of Cancun and other nearby resorts and often brim with people from around the globe. So get there early, it's worth it.



Chinchorro

One of the best-kept secrets in Mexico and the world is the fabled Chinchorro Banks coral reef system. Simply known as Chinchorro, it is as large as the island of Cozumel to the north, but sees only a handful of divers per year. It is considered by many to be some of the best virgin diving in the Caribbean. Species at Chinchorro grow to enormous sizes, and the reefs are untouched and unspoiled. Until recently, the only way to dive Chinchorro was a bumpy two-hour boat

ride from the far south. Now, a few small resorts have opened up on the beaches of Costa Maya only 18 miles from Chinchorro, and can reach the reef in 45 minutes.

For those wishing to mix it up on their trip down the coast, there are plenty of opportunities to explore the coastal jungles and their unbelievable array of mammals, reptiles, birds, insects and plant life. There is plenty of kayaking, swimming, sailing and hiking available as well. Just two hours from Costa Maya, a stop in Kohunlich can provide you the means to do all of the above or just relax at a hilltop resort and watch the sun and moon rise over the Mexican jungle.

Quintana Roo

The Mexican state of Quintana Roo on the northeastern coast of the Yucatan Peninsula is as close to a sure thing in travel as you can get. If the seas are blown out, you can dive in one of the protected cenotes. Don't want to spend the entire trip diving? Hang out on miles of soft white beaches or go for a trek through the jungle. Do you like diving, snorkeling, kayaking, fishing, hiking, swimming or sailing? How about fish, monkeys, manatees, jaguars, alligators and birds? Whatever your desires or tastes may be, this place has you covered.

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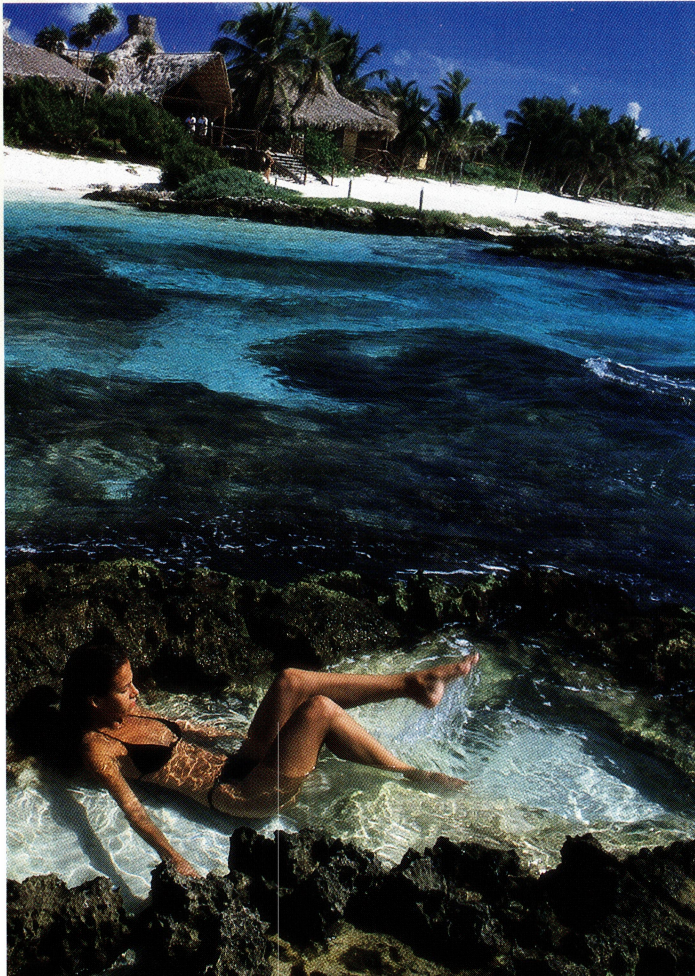
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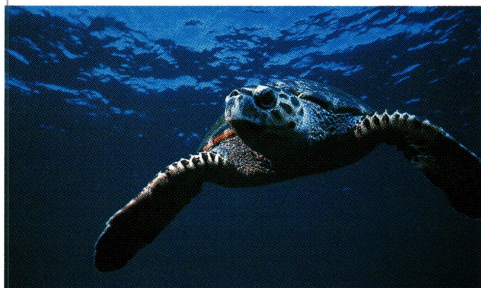
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In Memoriam: Ivor Fulcher

Ivor Fulcher, owner of the Sea Life photo operation at Dockside Dive Center, CoCo View resort in Roatan, Honduras, passed away October 13, 2000, at a Miami area hospital. Fulcher was well known in Honduras for the hospitality and knowledge of underwater photography bestowed upon his guests and students.

Through his skills and amicable character, Fulcher guided countless vacationers through the intricate details of photography, and did it in his trademark British accent. He was also a published author and photographer, notably providing a cover shot and accompanying story on seahorses for TACA



Ivor Fulcher's sea turtle photo appeared in the October issue of *Skin Diver*.

airline's in-flight magazine. He was also recently published in the October 2000 issue of *Skin Diver*.

Fulcher settled in Roatan after living in England, the Red Sea, Grand Cayman and working on the Peter Hughes *Dancer* when it served the Bay Islands. He is survived by his wife, Lynne Fulcher, who managed Dockside Dive Center and served as the Head Instructor at Dockside.

Fulcher suffered a non-dive related brain aneurysm, and was air-lifted to the U.S. on October 11 with the assistance of DAN. Ivor held on to life until the 13th, his 42nd birthday.

A memorial fund in Fulcher's name has been started by long-time friend Patty Grier-Rutledge, and donations will be made to a DAN Society related cause. Fulcher had long praised DAN's dedication to diver safety and health. Information about the fund is available through e-mail to Patty Grier and her husband Glenn Rutledge at glenn@structurex.net.

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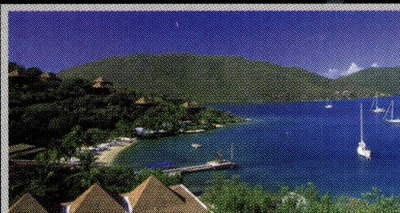
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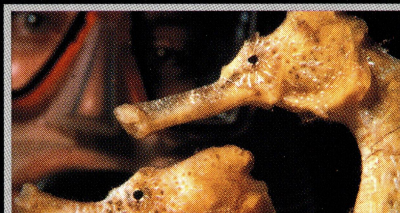


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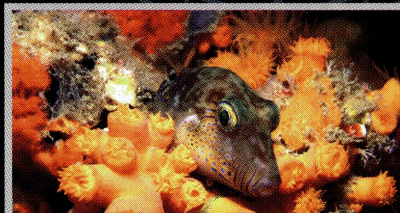
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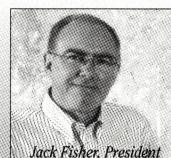
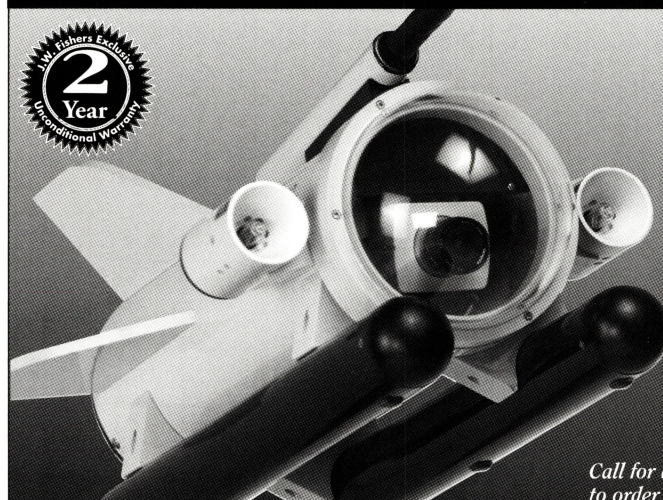
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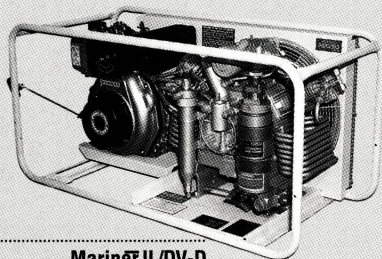
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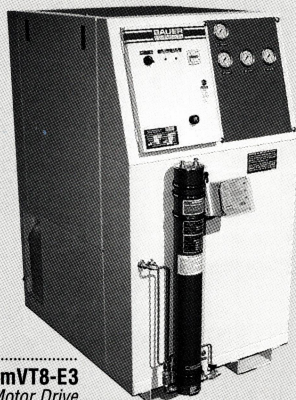


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University Team Studies Historic Shipwreck

A 92-year-old shipwreck off the Northern California coast may become part of a state park and a registered historic site through efforts of a research team from Indiana University.

Charles Beeker, director of the underwater Science Program at the IU School of Health, Physical Education and Recreation, has received a grant from the California Department of Parks and Recreation to research the 1908 S.S. *Pomona* shipwreck site near Ft. Ross. Check out the project's website at www.indiana.edu/~e472/pomona/pomonahome.html.

Beeker is directing a group of IU students in preparing an underwater site map of the shipwreck and determining visitor safety, resource significance, environmental sensitivities and historic significance of the site, some 90 miles north of San Francisco. Included in the project will be a report on the underwater resources, with original photographs and video materials, aimed at establishing an underwater shipwreck park.

The ship was transporting cargo on a route close to the coastline when it hit a submerged reef and sank. Known as the "Pride of the Coaster Fleet," the *Pomona* featured several unique components for a ship of its era, such as a triple-expansion steam engine and electricity on board.

Although salvage crews and looters have removed much of the ship, large sections remain at depths ranging from 27 to 40 feet. Beeker said the *Pomona* is popular with divers because of the abundant sea life, but diver safety is a concern because of surge.

In a report to California officials, Beeker said the *Pomona* "provides a unique opportunity to incorporate a shipwreck into a State Historic Reserve. The S.S. *Pomona* warrants recognition as California's best example of the 19th-century steam ferry transportation along the Pacific Coast, and it deserves acceptance to the National Register of Historic Places.

Beeker has directed a similar underwater park project for the State of California at a Lake Tahoe shipwreck site and conducted numerous underwater park projects in the Florida Keys and Caribbean.

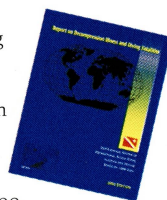
DAN Books

DAN Report on Decompression Illness and Diving Fatalities: 2000 Edition

The 2000 edition of a diving industry benchmark on reports of decompression illness and diving fatalities in diving year 1998.

Information compiled by DAN's medical and research staff spans 1987 through 1998; softcover; 1999.

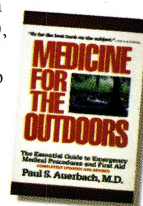
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Medicine for the Outdoors

Called "By far the best book on the subject" ("Field & Stream"), this newly revised book demonstrates that "there are no more important considerations for a successful outdoor experience than safety and first aid." By Paul Auerbach, M.D., M.S.; 499 pgs; 1999.

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Pocket Guide to First Aid for Scuba Diving

DAN's waterproof booklet presents succinct emergency first aid steps for diving injuries in an easy-to-read format. Written by DAN's Dan Orr and Bill Clendenen and edited by DAN Assistant Medical Director Dr. Guy Dear.

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Diving Physiology in Plain English

This book is for all scuba divers. It answers divers' frequently asked questions about physiology and covers a wide range of topics. By Jolie Bookspan, Ph.D.; 246 pgs; softcover; 1995.

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Health & Fitness in Plain English

What are the six worst stretching mistakes, the best workout routines for back and biceps? Diving physiologist and DAN member Dr. Jolie Bookspan emphasizes that health, fitness and nutrition can be fun. By Jolie Bookspan, Ph.D.; 357 pages; softcover; 1998.

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The DAN Emergency Handbook (Revised 3rd edition)

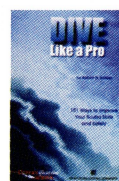
Waterproof field guide that provides step-by-step guidance in managing diving emergencies. By John Lippmann & Stan Bugg; 64 pgs; softcover; 1999.

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Learn more than 100 ways to improve your scuba and safety skills. This collection of tips offers diver information from improving buoyancy control, and diving in cold waters to dodging decompression sickness and tuning



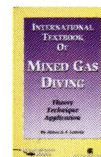
your dive gear. By Robert N. Rossier; 104 pgs; softcover, 1999. Order 401-3700 — Only \$15 US

International Textbook of Mixed Gas Diving

This book on mixed gas/saturation diving is directed at the professional diver and offshore personnel as well as people interested in the technical aspects of mixed-gas diving.

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By Heinz K.J. Lettner; 264 pgs; softcover, 1999. Order 401-3500 — Only \$15 US



Hazardous Marine Life Series

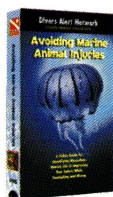
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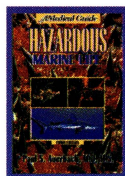
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A Medical Guide to Hazardous Marine Life (3rd edition)

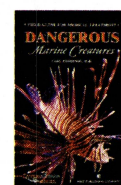
An absolute must for every dive bag, this book will help aquatic enthusiasts to be better informed about dealing with envenomations or intoxications, whether the reactions are mild or serious. By Paul S. Auerbach, M.D., M.S.; 68 pgs; softcover; 1997.

Order 401-0200 — Only \$18 US

Dangerous Marine Creatures

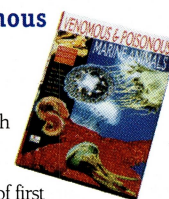
This popular field guide for medical treatment of injuries by marine animals includes color photographs to help with identification and first aid. By Carl Edmonds, M.D.; 276 pgs; softcover; 1995.

Order 401-1000 — Only \$25 US



Venomous and Poisonous Marine Animals

A comprehensive text on the biology of poisonous and venomous marine animals with up-to-date information on diagnosis and treatment of marine injuries. Features a list of first aid treatments for specific species. Medical Editors John A. Williamson, Peter K. Fenner, Joseph W. Burnett; Biology Editor Jacquie F. Rifkin; 504 pgs; hardcover; 1996. Order 401-1600 — Only \$100 US



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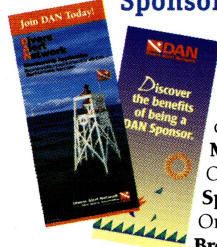


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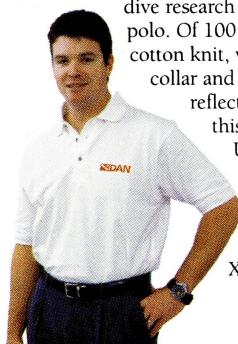
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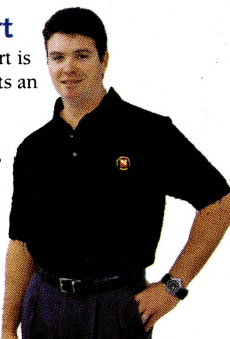
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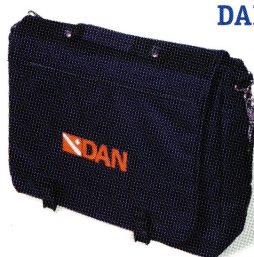
Fly DAN's colors and show your support of dive safety with this sturdy red and white nylon flag. With two grommets for mounting, the flag measures 2 feet high by 3 feet wide. Order 501-0500 — Only \$25 US



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The otoscope is a versatile pocket examination light designed for ear, nasal and oral examinations. Easy to use, the otoscope features state-of-the-art technology providing superior illumination and durability. Order 501-2400 — Only \$30 US

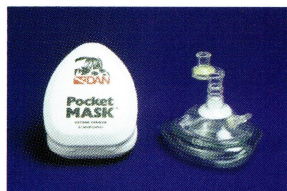
Important! DAN recommends that you receive proper training in the use of an otoscope before attempting to perform the ear examination. The placement of foreign objects, including medical instruments, in the ear canal by an untrained person can result in significant and permanent injury. The final diagnosis and treatment of injuries or illnesses of the ear should always be performed by and prescribed by a qualified physician.



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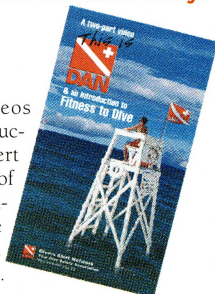
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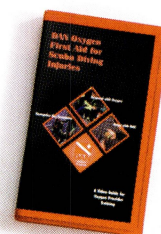
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- One Luxfer M9 Cylinder (246.3 liters) / (8.7 cu. ft.)
- Pocket Mask™
- Handwheel with Chain
- Non-Rebreather Mask

Dimensions: 16" L x 13" W x 7" D

Weight: 13 lbs.

Approx. Oxygen Delivery Time: 20 Minutes

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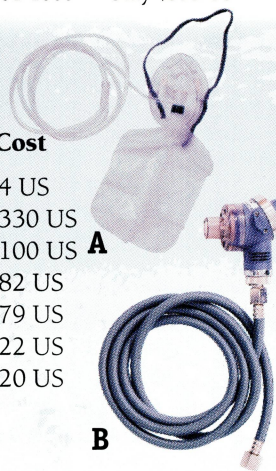
NOTE: DAN oxygen cylinders are shipped empty. There may be local or regional variations in oxygen-filling and equipment requirements that may be incompatible with DAN oxygen equipment. Call your DAN representative for more information.

Upgrade Options:

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Note: For other kit options such as Charter Boat Units, contact DAN Member Services at 1-800-446-2671.



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Weight: approx. 12 lbs.

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Rescue Pak with REMO₂ option Order 601-7000 — Only \$595 US

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time capsules

By Tamara Collins

This month, in honor of *Skin Diver's* 50th anniversary, we take a look back at a few of diving's celebrated writers and photographers who got their start in the pages of *Skin Diver* magazine. It's good to know the roots of your sport and the history of the divers that shaped it into what it is today.

1976



Cardone Covers the Art of the Sea

Bonnie Cardone first appeared on the masthead of *Skin Diver* magazine as editorial assistant in December 1976, coincidentally, the magazine's 25th anniversary issue. Her name was added to a short list of long-time staff members: Paul Tzimoulis, editor-publisher; Connie Johnson, managing editor; and Art Smith, art director.

Cardone's first article appeared two months later in the February issue. She introduced *Skin Diver's* readers to William H. Brown, a diver and artist who painted what he saw beneath the sea. "Using acrylic on canvas," Cardone wrote, "Brown paints graceful sharks and rays, menacing barracudas and brightly hued fish." Rising through the ranks, and eventually becoming *Skin Diver's* editor, Cardone's articles and photographs appeared in the magazine for the next 23 years. 🐠



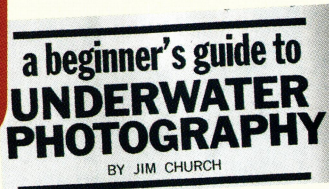
Church Takes a Shot at Writing

When Jim Church began writing for *Skin Diver* in May 1966, the magazine's photography column was 10 years old. His first article was "A Beginner's Guide to Underwater Photography," and although the sophistication of the equipment has changed, the advice is still relevant: start with an inexpensive camera, stay in shallow water, shoot close and keep a record of your shots.

Church's column, "You-Can-Do-It," appeared sporadically throughout the late '60s. In May 1968, he wrote his first travel feature, and two years later, Church and then-wife Cathy started one of *Skin Diver's* longest running photography columns, "Underwater Photography Quick and Easy." Church's columns had many incarnations, appearing regularly in the magazine until 1999. Church will contribute several features in 2001. 🐠



1966



Boyd and the Beauty

As the saying goes, there is a woman behind every successful man. In Ellsworth Boyd's case, the woman happened to be Bettie Page. In 1958, Boyd spotted Page from his perch on a lifeguard stand at a Ft. Lauderdale beach. He approached her with the best of intentions: teach her how to skin dive and write about it for *Skin Diver* magazine. In his article, which appeared in June that year, Boyd wrote, "Bettie was fascinated with the silent world of fish and coral. In twenty feet of water she dived like a veteran."

The article, "The Latest Rage with Bettie Page," launched a writing career that has spanned 43 years. He wrote on a number of subjects: travel, equipment, wreck diving, commercial diving and ecology. Boyd's monthly column, "Wreck Facts," which appeared in *Skin Diver* from 1982 to 1988, brings the grand total of his contributions to 140 articles. Boyd will soon be adding to the list in February, with the return of "Wreck Diving." 🐠



1958



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The Cold Truth

BY JULIANNA WALLINGFORD ILLUSTRATION BY KIM WILSON BRANDT

AT AN ALTITUDE OF NEARLY NINE THOUSAND FEET, THE WATER IN Grand Lake, Colorado, on the western border of Rocky Mountain National Park, is never balmy. The morning sun had brought the air temperature to nearly 80°F, and the surface water temperature to 58°F, but there was no question that we would be wearing drysuits, hoods and gloves.

My dive buddy and I had driven up from Boulder to explore a sheer rock wall that forms one border of the east side of the lake. Since we had made our most recent dives in the warm waters off the Florida Keys, it took a little adjustment to get into cold water gear. We then made a precarious trip over slippery rocks to the water. After checking my buoyancy, I discovered I was a little light, but not enough to justify repeating the trek over those rocks. I could descend by using the time-tested diving technique of "thinking heavy."

I am accustomed to the poor visibility associated with silt-bottomed lakes, but I had never before seen the light absorbed as quickly as it was in that high mountain lake. At 15 feet, I had lost the ability to distinguish the color of my dive buddy's bright neon drysuit.

We descended along the contour of a deep, hard mud slope, the flashlight showing us only a ripple pattern of the mud and an occasional golfball. Once the light revealed the familiar shape of a coke bottle, and I stuffed it in the pocket of my BC, as a reminder of a nondescript dive.

The slope intersected with the rock wall at a depth of 75 feet. My buddy hugged her arms across her chest to indicate that even a drysuit wasn't keeping her warm in 36°F water. We had only been submerged for 15 minutes. At that altitude, in those conditions, it was time to head up for comfort as well as safety's sake.

As I nodded my agreement to ascend, a blast of bubbles pounded into my mask, and the inside of my mouth became an Arctic zone. My valve had frozen open. I discarded the free-flowing regulator and placed my secondary regulator in my mouth.

Then I learned a cold truth: at 70 feet, with a free-flowing regulator, my first stage was unable to provide enough pressure for my alternate air source to function.

My dive buddy was already handing me her alternate, but to her surprise, I refused it. Another lesson in physics was being revealed: a tank that is being emptied by a free-flowing regulator quickly becomes positively buoyant. Since my buoyancy had been marginal to start with, I did not want to take my buddy on a ride to the surface.

Holding my regulator in my mouth with my left hand and trying to vent my drysuit with my right, an awkward position at best, I made a sincere but inefficient effort to control the rate of my ascent. The frigid bubbles buffeting my head were freezing my face and filling my hood to Pillsbury Dough Boy proportions.

With my own fins flared, and my dive buddy grasping my ankle with her fins flared, we managed to extend our trip up the wall for nearly two minutes. Under normal circumstances, I would have preferred an ascent time closer to three minutes, plus a safety stop, but considering the pounding my head was taking, I was actually grateful the elevator ride hadn't taken longer.

It was a long trip home with the car's heater blasting hot air, slowly raising my body temperature back to normal. Sitting back with my eyes closed, nursing a raging headache, I reviewed the dive.

It had been disturbing to learn that my first stage was unable to provide an adequate airflow to my alternate regulator when my primary was free-flowing. Had I had a redundant system, the incident would have been a non-event. Simply turning off the primary system and breathing from an alternate air source would have allowed me a slow, comfortable ascent.

Even a small Spare Air would have made it possible to rise to a depth at which my secondary regulator would have received enough pressure to function. Without a constant cascade of supercooled air flowing through it, the primary regulator might even have thawed on the way up.

My problem was magnified by the fact that I was slightly under-weighted.

I was lucky. I ended up with nothing worse than a bad headache and a cold body. On the positive side, I gained a new respect for the speed with which one problem compounds another, and a 1938 Coke bottle for my trophy shelf.



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